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Equity of Higher Educational Opportunity for Women, Black, Hispanic, and Low Income Students

Thomas G. Mortenson

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EQUITY OF HIGHER EDUCATIONAL OPPORTUNITY FOR WOMEN, BLACK, HISPANIC, AND LOW INCOME STUDENTS

Thomas G. Mortenson

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EXECUTIVE SUMMARY

Equity of higher educational opportunity has been a goal of the federal government since passage of the Higher Education Act of 1965 as a part of President Lyndon Johnson's War on Poverty. This Act recharted the commitment and involvement of the federal government in higher educational enrollments. Instead of rewards for military service, phased labor market reentry for returning veterans, or incentives for academically talented youth, the primary federal focus became addressing socioeconomic inequities by improving higher educational opportunities for disadvantaged portions of the population.

The federal student financial aid programs contained in Title IV of the Higher Education Act are scheduled to expire in 1991. In the federal review and reauthorization process, a central consideration will be the participation in higher education of the vulnerable populations for which student aid programs were created. The main purpose of this paper is to evaluate the status of equity of undergraduate higher educational opportunity. This paper describes the evolution over the last four decades of the higher educational participation of four groups of Americans: women, blacks, Hispanics, and low income. The participation of each group in American higher education has been a concern of public policy at one time or another since the 1960s.

> **In this paper, we contrast the success of women in achieving equity of higher educational opportunity (compared to men) with the partial successes followed by more recent failures of blacks and Hispanics (compared to whites) and low income (compared to the affluent). These contrasts of success in achieving equity of opportunity for some citizens with the failure to preserve achievements for others is the central finding of the study. This finding leads to the study's main conclusion: the goal of equity of higher educational opportunity for all Americans that was partly achieved by the second half of the 1970s has been largely lost for blacks, Mexican-Americans, and those from low family income backgrounds during the 1980s.**

Six dimensions of undergraduate participation in American higher education are analyzed for each population in this study: preparation for college, access to college, college choice, college completion, field of study, and baccalaureate degree attainment. The analysis of higher educational opportunity helps identify where problems in participation exist.

Women

A comparison of the participation of women to men in American higher education shows enormous, continuous, and persistent gains for women in high school graduation, college access, fields of study, and baccalaureate degree attainment. This progress began about 1966 and appears to be still moving forward for women on most dimensions of higher educational preparation and participation examined in this study.

The record for females, however, is not entirely positive. Girls in elementary and secondary school have made no progress in their qualitative preparation for college, as measured on standardized academic tests. While college access has improved, college choice continues to deteriorate for women college freshmen, as it has for men, since the mid 1970s. And college persistence has shown little progress since the mid 1970s for women despite increasing degree aspirations.

But on the bottom line--the proportion of the population age 25 to 29. With four or more years of college--the combined effect of improved higher educational preparation and participation by women was that by 1989 women had about 96 percent of the chance of a man to have completed four years of college compared to less than 60 percent before 1965. The success of women, while showing areas where further improvements are possible, stands in stark contrast to the record for blacks, Mexican-Americans, and the low income that occurred during the period of time under study here.

Blacks

Equity of higher educational opportunity for blacks compared to whites presents a record of significant achievements and successes offset by profound failures. The magnitude of the failures for blacks is amplified by the success of women using the same dimensions of equity of higher educational opportunity. In the mid 1960s--at the time of the passage of the Higher Education Act of 1965--both women and blacks shared similar burdens of inequality of higher educational participation. By the mid 1970s important aspects of that inequality had been addressed and both groups enjoyed the fruits of their achievements in the second half of the decade. But during the 1980s, their respective experiences have diverged; womens' progress has continued, while black's progress has been reversed.

> **The college access rate for black high school graduates declined sharply between 1978 and 1983, during the same period that white college access rates were increasing. College choice rates for blacks are far below those of whites and have declined faster than the rates for whites since the mid 1970s. Only for blacks with outstanding high school grades and from very affluent families do college choice rates match those for whites. College persistence rates for whites have remained largely stable to slightly increasing since 1964; for blacks, college persistence rates have plummeted since 1964. Baccalaureate degree attainment rates for white high school graduates have increased slightly during the 1980s, while the rate for blacks has dropped sharply.**

The failure of the black experience in higher education is all the more striking given the substantial improvement in preparation for college by blacks in elementary and secondary education. On standardized tests like the National Assessment of Educational Progress and the ACT Assessment, mean scores for blacks have shown significant improvement. Scores for whites have shown no improvement at all. High school graduation rates for blacks have shown steady and substantial improvement over the last two decades, while white high school graduation rates have remained flat since the mid 1970s. Yet, in the sharpest imaginable contrast of this scenario, white college entrance rates have gone up while black college entrance rates have gone down.

The cumulative effect of increasing high school graduation rates, fluctuating college entrance rates, and decreasing college completion and baccalaureate degree attainment rates has been a slow increase in the four-year college completion rate among 25 to 29 year olds between 1940 and 1976. Since 1976, however, this bottom line measurement of performance has declined slightly. Compared to the four year college completion rate for whites, black rates declined almost steadily between 1940 and 1976, and have recovered only slightly since then. By 1989 blacks had about 52 percent of the chance of a white to have earned a baccalaureate degree by age 25 to 29.

It is possible to interpret some of the data in this study in a more favorable light for the future of black participation in higher education. That is, if academic preparation is a necessary condition for success in college, then improvements in black test score performance and high school graduation rates bode well for future black participation and success in higher education.

In fact, something like this may be beginning--a second chance for black success in higher education may be underway. The proportion of recent black high school graduates going on to college has increased substantially since 1983. However, this improved preparation for and access to college is not yet reflected in data on retention in college. And unless all necessary conditions for improved success are addressed at the collegiate level, the potential for improved black completion and degree attainment in higher education may not be realized.

Hispanics and Mexican-Americans

In many respects, the record of equity of higher educational opportunity for Hispanics parallels the record for blacks. But Hispanics are a heterogeneous group, and where we can study Mexican-Americans as a subset of the Hispanic population, we find in that subgroup the greatest problems in higher educational preparation and participation. Other Hispanics appear to be faring about as well as whites.

Hispanics in general, and Mexican-Americans in particular, score well below whites on standardized academic subject tests, and the high school graduation rates from these populations are well below those of whites. But on both measures of preparation for college, Hispanics in general and Mexican-Americans in particular showed significant improvement through 1986, while whites have not shown any improvement in either measure. But here the better news ends and the worse news begins.

> **The high school graduation rates for Mexican-Americans and other Hispanics have slipped badly since 1986, while rates for whites have edged upward. White college enrollment rates have increased substantially between 1974 and 1986, while the college enrollment rate for Mexican-Americans has declined. The college enrollment rate for 18 to 19 year old Mexican-American high school graduates equalled that of whites in 1974, but by 1988 it stood 22 percent below the rate for whites. Between 1974 and 1988, the college entrance rate for Mexican-Americans plunged. The college enrollment rate for other Hispanics (Puerto Rican, Cuban, etc.) which was 9 percent above the white rate in 1974, was about 1 percent below the white rate by 1988. The college completion rate for Hispanics, which historically stood about 19 percent below the rate for whites, closed by 1984 to about 12 percent. Since then the gap has reopened to about 17 percent. The four year college completion rate for 25 to 29 year old Mexican-Americans stood in 1989 at 10.1 percent—41 percent of the white rate.**

Unlike the picture for blacks, the picture for Mexican-Americans looks disastrous in all respects. Virtually nothing seems to have helped improve Mexican-American preparation for and participation in American higher education by the late 1980s. Yet the American labor market is demanding ever higher levels of educational attainment from its workers, and since 1980 real gains in living standards have been limited to those with four years or more of college. The consequences of Mexican-American youth's failure to complete high school and pursue collegiate study are ominous for the future welfare of this population and the states in which Mexican-Americans are concentrated.

Low Income

Our picture of the participation of those from low family income backgrounds in American higher education is similar to the experience of Mexican-Americans.

> **The low income are not nearly as likely as their more affluent counterparts to graduate from high school, although some modest progress has occurred during the last two decades. When they do graduate from high school, their test scores are lower than more affluent students and they are less likely to have completed a college preparatory curriculum in high school. Progress was made in the college enrollment rates of Americans from lower family income ranges between 1966 and the mid 1970s, but those achievements deteriorated during the 1980s. About 40 percent to 50 percent of the gains in higher educational participation by the low income made between 1966 and 1975 have been lost during the 1980s. College choice for low income students was nearly equal to that of affluent students in the late 1970s. But by the mid 1980s, low income students had significantly less college choice than higher income students and were less likely to enroll in their first choice college. When they did enroll in college, they were about half as likely to enroll in a university in 1986 than they had been in 1978. Over the last five years, students from the bottom quartile of the family income distribution have been about one-tenth as likely as students from the top quartile to earn a baccalaureate degree by age 24.**

Low income students have been the special target of federal student financial aid programs since 1965. The data we have regarding their participation in higher education since then suggest great strides in access to college until the late 1970s, followed by loss of nearly half of those gains during the 1980s.

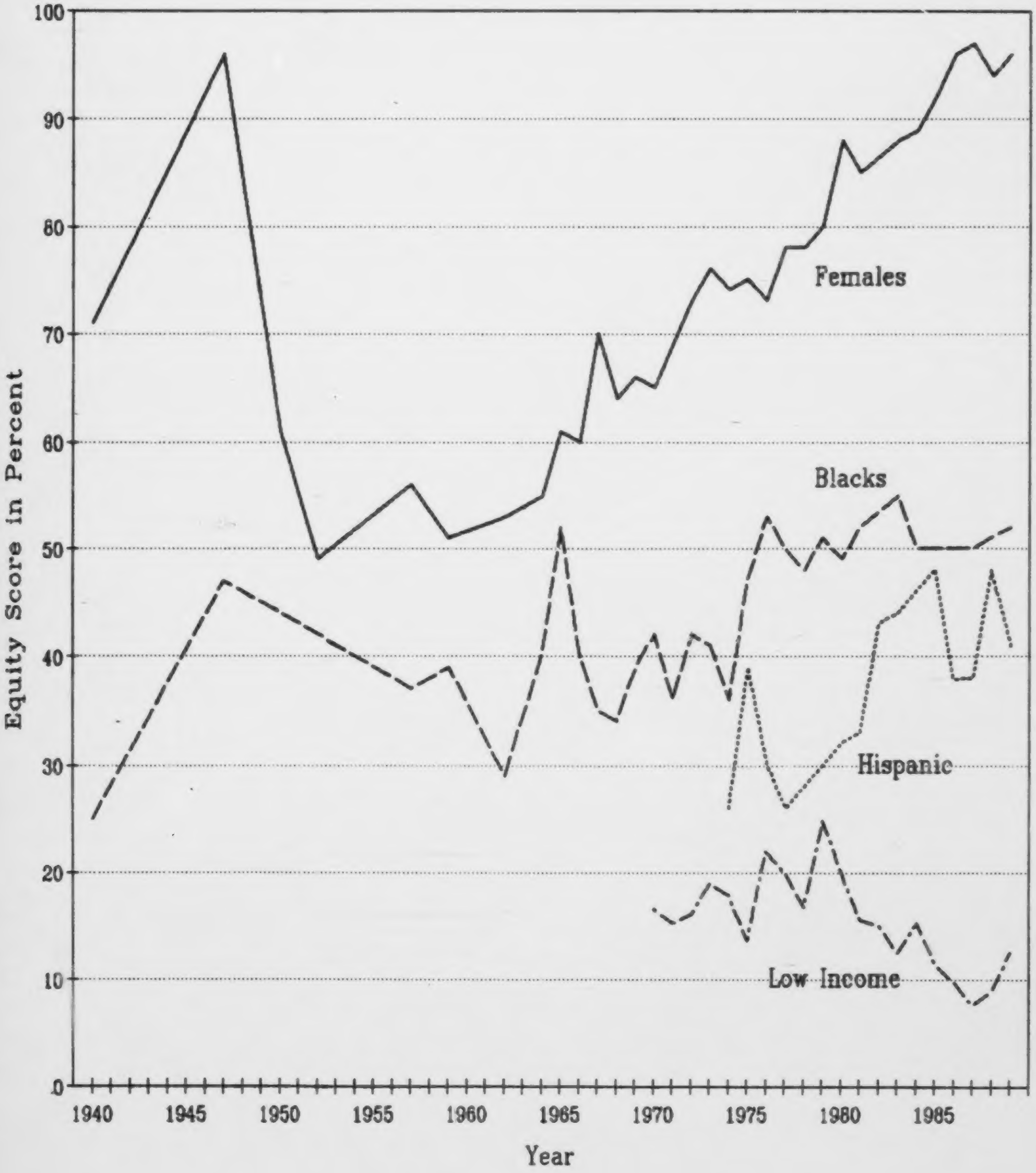
The Equity Scorecard

This study documents successes and failures in attempts to achieve equity of higher educational opportunity over the last 25 years of staggering magnitude. Using the system of reference populations developed in the study, the figure on the following page summarizes the status of equity for each population studied over the years of available data. The equity score for females, for example, is the ratio of the proportion of the female population age 25 to 29 with four or more years of college divided by the proportion of the male population age 25 to 29 with four or more years of college, expressed in percent.

In 1965, a woman age 25 to 29 had about 61 percent of the chance of a man in the same age range to have earned at least a baccalaureate degree. By 1989 her chances had risen to 96 percent. Given women's current progress in high school graduation, college access, and college completion, women's chances of earning a baccalaureate degree will soon surpass those of men. The record of equity of higher educational participation for women described in this study demonstrates what is possible because for one group of Americans full equity of higher educational opportunity has been very nearly achieved.

Similar equity was beginning to be achieved for others between 1965 and 1980, and then that progress was stalled or even reversed during the 1980s. In the 1960s a black age 25 to 29 had about 40 percent of the chance of a similarly aged white to have completed four years or more of college. By the mid 1970s that chance increased to

EQUITY SCORE ON BACCALAUREATE DEGREE ATTAINMENT
FOR DISADVANTAGED POPULATIONS COMPARED TO REFERENCE GROUP
1940 to 1989



about 50 percent as a result of progress in high school graduation and college access begun a decade earlier. However, that progress stalled after the mid 1970s, despite increasing high school graduation rates, because of steady deterioration in college completion and periodic loss of college access.

The equity score for Hispanics appears to be improving over the last 15 years, although our inability to distinguish Mexican-Americans from other Hispanics is an important data constraint. About all we can say for sure is that Hispanics currently have about 42 percent of the chance of a similarly aged white to have completed four or more years of college by age 25 to 29, and that this is up from about 30 percent in the mid 1970s.

The equity score for those from low family income backgrounds has clearly and sharply deteriorated during the 1980s, despite evident progress during the 1970s. In 1970 a person from the bottom quartile of the family income distribution had about 16 percent of the chance of another person from the top quartile to earn a baccalaureate degree by age 24. That chance increased to 25 percent by 1979, then declined to a low of about 8 percent by 1987. Equity of higher educational opportunity for those from low family income backgrounds is worse in the second half of the 1080s than it has been at any time during the last two decades.

This study also demonstrates areas that existing equity programs have not touched during the last twenty five years. Black college completion is one such area, and Mexican-American high school graduation and college access is another. While some familiar ground needs to be reexamined, some unfamiliar ground has yet to be broken.

EQUITY OF HIGHER EDUCATIONAL OPPORTUNITY FOR WOMEN, BLACK, HISPANIC, AND LOW INCOME STUDENTS

Thomas G. Mortenson

I. Introduction

> **"The sharp contrast between the experiences of women and nonwhite minorities that evolved during the 1980s refocused our attention on issues of equity of higher educational opportunity. For women, the equity gains achieved from 1966 to 1975 have been preserved and extended. For blacks, Hispanics, and low income, the equity gains achieved during this same period have substantially eroded. This report shows, through analysis of college completion data, just how illusory the apparent gains in equity for minorities and the low income were."**

Equity of educational opportunity has been national policy since passage of the federal Elementary and Secondary Act and the Higher Education Act in 1965. These laws applied a series of legal, programmatic, and financial remedies to inequities of educational opportunity that were apparent to national policy makers then. Federal student aid programs designed to address higher educational enrollment inequities were initiated as a part of the federal response. These student aid programs have been reviewed, amended, revised, and recreated by Congress in subsequent reauthorizations in 1972, 1978, and 1986, and in annual federal budgeting bills. They will again be reviewed for reauthorization prior to their scheduled expiration in 1991.

The policy analysis reported in this paper provides an overview of the accomplishments and setbacks of attempts to address the goal of equity of higher educational opportunity over the last five decades. The study spans the period of time since 1940 that led up to the momentous social legislation of the 1964-65 period and the equality decade of the 1970s. The study analyzes the historical evolution and current status of equity of higher educational opportunity for four groups of Americans that have been particularly visible in public policy processes involving equity: women, black, Hispanic, and low income students.

This study is descriptive--not prescriptive. It is focused on preparation for, access to, and completion of undergraduate study. Due to lack of data, it is limited to higher education and thereby generally excludes postsecondary vocational education. And it divides the same population by gender, race, ethnicity, and income in discreet analyses.

These separate analyses occasionally explore two demographic descriptors of the population at the same time, such as college completion experience of black women and black men. However, such detailed studies have been deferred. They are usually possible to do, but often have statistical limitations on their interpretation. This is a bottom line study of performance. It avoids causal interpretations of changes in enrollment behavior and hence does not suggest remedies for problems where they exist.

This paper is the last of the ACT Student Financial Aid Research Reports that examine the policy framework and program performance of student financial aid. During the last four years, ACT has published nine papers in the Student Financial Aid Research Report series:

"Why Financial Aid?" (December, 1987)
"Pell Grant Program Changes and Their Effects on Applicant Eligibility, 1973-74 to 1988-89" (May, 1988)
"Attitudes of Americans Toward Borrowing to Finance Educational Expenses, 1959-1983" (November, 1988)
"Family Income, Children, and Student Financial Aid" (April, 1989)
"Dislocated Workers and Displaced Homemakers" (May, 1989)
"Missing College Attendance Costs: Opportunity, Financing, and Risk" (August, 1989)
"The Impact of Increased Loan Utilization Among Low Family Income Students" (February, 1990)
"The Reallocation of Financial Aid From Poor to Middle Income and Affluent Students, 1978 to 1990" (May, 1990)
"High School Graduation and College Participation of Young Adults by Family Income Backgrounds, 1970 to 1989" (September, 1990)

This study concludes the series and ends ACT's public policy analyses in student financial aid.

This study analyses six dimensions of higher educational opportunity and many aspects of each of these dimensions. The major dimensions of higher educational opportunity studied here are preparation for college, access to college, choice among colleges, college completion, field of study, and baccalaureate degree attainment. This approach--which views the educational experience as a part of a long process of preparing individuals for adult roles in American life--concludes with a bottom line synthesis of these dimensions in a single, comprehensive measure of higher educational attainment for each gender, race, ethnic, and income group examined in the study.

This study addresses the condition of equity in relative rather than absolute terms. For example, the higher educational participation of women at any point in time is compared to that of men at the same point. Participation is measured in terms of rates to control for differences in population sizes and to facilitate comparisons over time. The participation rate for blacks and Hispanics is compared to that of whites. The participation of persons from low family income backgrounds is compared to those from high family income backgrounds. The difference in the college participation rates that result from these comparisons is the measure of equity or inequity that is the focus of this study.

The results of this study portray accomplishments and failures of equity of higher educational participation of staggering magnitude. Many millions of lives have been profoundly affected by the power of the social, political, and economic forces that were brought to bear on inequitable conditions of higher educational opportunity. The conditions of inequality of the 1950s and early 1960s that led to the social legislation of 1964 and 1965 had been, in most cases reported here, addressed by the mid 1970s. Since that time, however, some of these accomplishments for some groups have been preserved while the accomplishments for other groups have been substantially or completely eroded. It is this record that the following study documents. It is this record that confronts Congress as it reviews the performance of federal programs designed to assure equity of higher educational opportunity for all Americans who seek its benefits.

Equity of Higher Educational Opportunity

Between the end of World War II and the mid 1960s, higher educational opportunity for white and nonwhite Americans took decidedly different paths. The college enrollment rate--the proportion of the civilian noninstitutional population enrolled in a degree granting college or university--for white Americans age 18 and 19 grew at an annual rate of 1.3 percent per year between 1947 and 1965, compared to an annual growth rate of .5 percent for nonwhites. The college enrollment rates for whites and nonwhites are shown in Figure 1. The college enrollment rate gap measures the difference between the college enrollment rates for these two groups at any point in time. This gap, which had been about 3 percent in 1947, grew to 21 percent by 1966. These data are shown in Figure 2. Similar patterns existed between older whites and nonwhites in college enrollment rates.

While the difference between white and nonwhite college enrollment rates was increasing between 1947 and 1966, so too was the difference between the college enrollment rates of men and women. For men, the college enrollment rate increased by an average of 1.5 percent per year, while for women the rate increased by an average of .9 percent per year. These data are shown in Figure 3. The college enrollment rate gap for women grew from zero in 1947 to 12 percent by 1966. These data are shown in Figure 4. Similar patterns existed for men and women through age 34 during this period.

During the two decades following the end of World War II, participation in American higher education had steadily grown more unequal in the terms of relative equity used in this paper. This inequality was reflected in other aspects of American life as well. The meaning of socioeconomic inequality and the political opportunity it created was initially recognized by Senator John Kennedy, who exploited these issues in his successful campaign for the presidency in 1960.

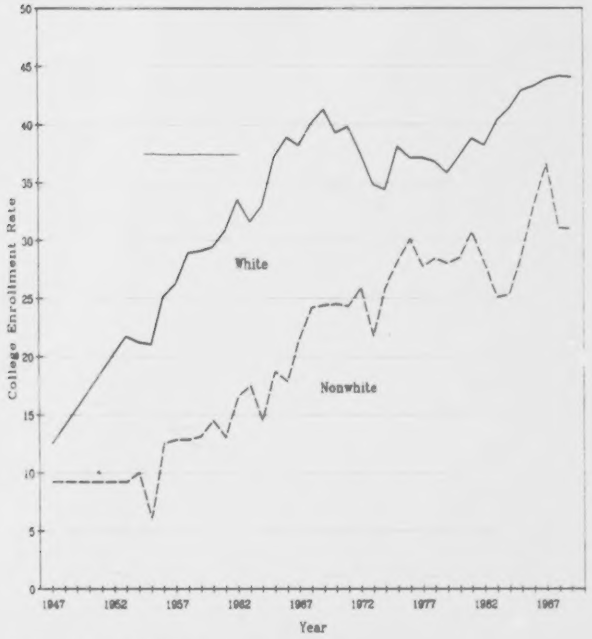
President Kennedy's successor, Lyndon Johnson, envisioned a Great Society known as the War on Poverty. In the two year period, 1964-1965, the foundation was laid for the social programs that institutionalized the equity aspirations that guide public policy today. These programs, in the broad design of the War on Poverty, had three objectives:

- To increase the human capital of low income people through programs of education and health that would make them more valuable to potential employers;
- To remove barriers such as race, gender, and income to educational and employment opportunities; and
- To stimulate the economy to create new jobs so that as the better capitalized low income were prepared for the job market, the jobs were created to employ their human capital in productive roles.

The Congressional response in 1964 and 1965 produced historic legislation that included the following laws:

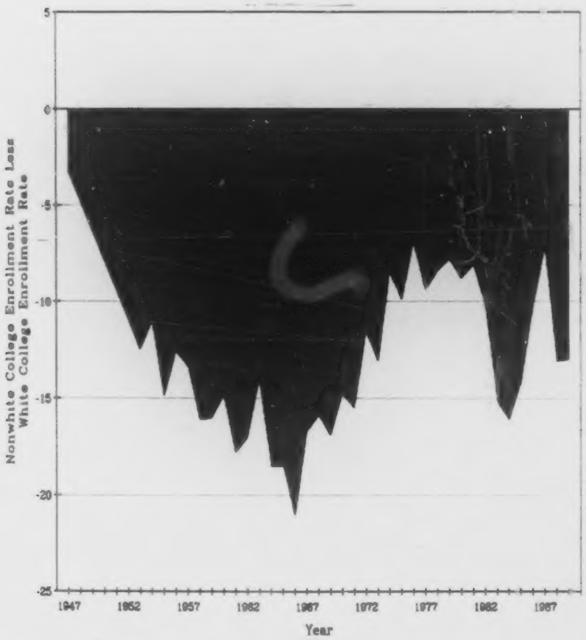
Economic Opportunity Act of 1964
Civil Rights Act of 1964
Voting Rights Act of 1965
Medicare, in 1965
Elementary and Secondary Education Act of 1965
Higher Education Act of 1965

FIGURE 1
COLLEGE ENROLLMENT RATES FOR WHITE AND NONWHITE 18-19 YEAR OLDS
1947-1989



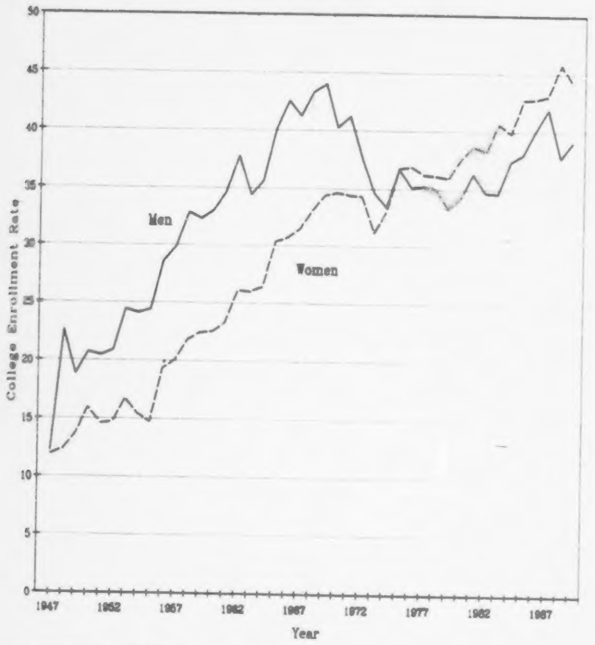
Source: Current Population Survey, Series P-20.

FIGURE 2
COLLEGE ACCESS GAP FOR NONWHITE 18-19 YEAR OLDS
1947-1989



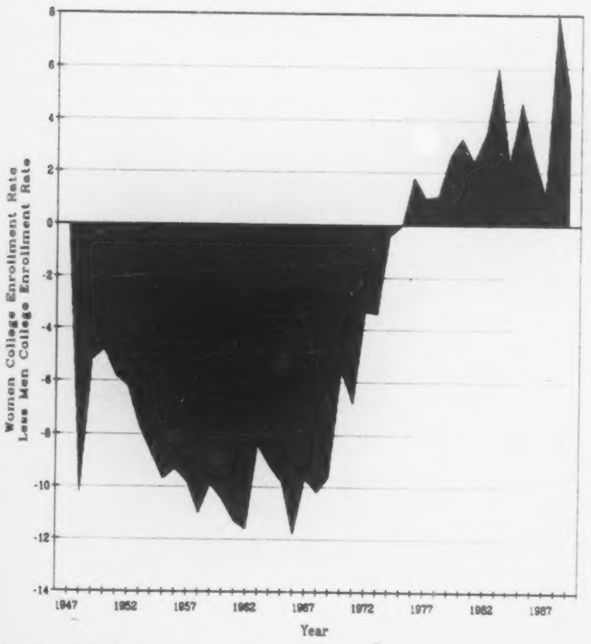
Source: Current Population Survey, Series P-20.

FIGURE 3
COLLEGE ENROLLMENT RATES FOR 18-19 YEAR OLD MEN AND WOMEN
1947-1989



Source: Current Population Survey, Series P-20.

FIGURE 4
COLLEGE ACCESS GAP FOR 18-19 YEAR OLD WOMEN
1947-1989



Source: Current Population Survey, Series P-20.

The 1965 Higher Education Act established Educational Opportunity Grants, with incentives to institutions to attract people to higher education from groups that had not been well represented previously. Gradually, however, Congressional interest in equality of higher educational opportunity shifted from a focus on institutional behavior to a more direct focus on students.

1972 Education Amendments

Since 1972, the federal government's major policy objective in the finance of higher education has been to equalize educational opportunity for students through needs tested financial aid. The federal policy of student support is based on a view of consumer choice as the best guide to institutional responsiveness to the public interest. This became the federal policy with the adoption of the 1972 Education Amendments to the Higher Education Act of 1965. This policy is also enforced through civil rights statutes that prevent discrimination against many classes of citizens. Gladieux and Wolanin, in their history of the 1972 Amendments to the Higher Education Act of 1965 (1976), concluded the following:

> One theme above all dominates the law and the legislative history. The equalization of opportunities for higher education, a goal historically more incidental than integral to federal involvement in this field, clearly became the central commitment of the federal higher education policy with the passage of the Educational Amendments of 1972.
>
> As an abstraction, equal opportunity is implicit throughout the bill - in the provisions for community colleges and occupational education, in the state planning provisions, in the institutional aid formula. But operationally, its principal meaning was that lack of money should not be a barrier to an individual's pursuit of education or training beyond high school. Thus the equal opportunity theme is most directly expressed in the student aid provisions, which form the centerpiece of the legislation. Removing the financial barriers facing students was the overriding concern of the legislators, as it had been of the Carnegie Commission and the Rivlin Report.
>
> The law embraces a set of new and old student assistance programs designed to ensure equal access to the postsecondary system and to go far toward ensuring equality of choice among institutions ....
>
> Corollary to the equal opportunity theme, the law enunciates the basic policy choice that students, not institutions, are the first priority in federal support for higher education. The legislators were concerned about institutional well-being and survival, particularly of private schools, but they determined that these concerns should not be the basis of federal policy. Better, they decided, to put purchasing power in the hands of needy students and let the students make their own choices in the marketplace of postsecondary education. This strategy would have the effect of concentrating available federal resources on the students who might otherwise be barred from postsecondary opportunities; it would also, so the reasoning went, serve to make institutions more responsive to the needs and interests of such students. (Pp. 224-225)

The results of the 1965 and 1972 legislation, in terms of equity of higher educational opportunity, are dramatically illustrated in Figures 1 through 4. In general, the gaps between men and women and between white and nonwhite college enrollment rates reversed courses about 1966, narrowed between 1966 and 1976, and were effectively closed by the mid 1970s.

As Figure 4 shows, the gap between the college enrollment rates for men and women age 18 and 19, which reached nearly 12 percent in 1966, closed completely by 1975. Since that date, young women in the civilian, noninstitutional population have been enrolled in college at higher rates than have young men. In fact, since 1979, the college enrollment rate for women has stood at 2 percent to 8 percent above the rate for men.

For nonwhite minorities, a comparable experience evolved between the mid 1960s and the mid 1970s. The difference in college enrollment rates between white and nonwhite 18 and 19 year olds, 21 percent in 1966, decreased to 7 percent by 1976. After 1976, the college enrollment gap stabilized at about 8 percent through 1981. (When high school graduation differences between whites and nonwhites are controlled for, this gap closes to about 1 percent over this period.) After 1981, the college access gap for nonwhites very quickly began to grow again; by 1984 this gap had grown to 16 percent.

It is precisely the difference between the experiences of women and nonwhite minorities that evolved during the 1980s that refocuses our attention on issues of equity of higher educational opportunity. For women, the equity gains made between 1966 and 1975 have been both preserved and extended. For blacks, Hispanics, and the low income, the equity gains achieved between 1966 and 1976 have been substantially eroded. In fact, this study shows by analyzing college completion just how illusory the apparent gains in equity for minorities were, and how more important and fundamental changes in college preparation by minorities now under way could be preparing minorities currently enrolled in elementary, secondary, and higher education for more successful experiences and outcomes from higher education.

Organization of the Paper

The study produced findings and reaches conclusions reported in this paper. The body of the paper reports analytical findings in five sections: one each for women, blacks, Hispanics, and the low income, and a bottom line conclusion. Each section describes comparatively six components of higher educational opportunity: preparation for college, access to college, choice among colleges, college completion, field of study, and baccalaureate degree attainment.

The data used in the analyses were drawn primarily from the Current Population Survey which is conducted by the Census Bureau and Bureau of Labor Statistics. We also relied on the annual national survey of college freshmen conducted by the American Council on Education and the University of California at Los Angeles, and assessment files of the American College Testing Program. Other data sources employed in this study include the National Assessment of Educational Progress, the National Center for Education Statistics, and the Defense Manpower Data Center.

Data in this report are presented primarily in chart form so the important message can be seen at a glance. Charts typically appear in pairs: the first chart plots some dimension of higher educational preparation, participation, or completion over time for both the group under study (women, blacks, Hispanics, or the low income) and its reference group (men, whites, whites, and high income, respectively); the second chart, which plots the difference or "gap" between the rate for the group under study and its reference group, depicts the status of equity for that dimension of higher educational opportunity over time. The data have been presented in this way to highlight underlying trends and diminish statistical noise characteristically present in sampled data. In this way, the meaning of data with respect to the policy question of equity of higher educational opportunity is clarified and emphasized.

II. Women

> **"Women have very nearly achieved equity of higher educational opportunity with men. An analysis of the components of that achievement indicates that the parity was reached through improved high school graduation, college enrollment, and persistence through college to graduation. During the last 25 years, young American women have increasingly focused on achieving higher socioeconomic status and view higher education as crucial to attaining that goal."**

During the last 20 years American higher education has been transformed by the expanding presence of women on college campuses. The change has many facets--from the growth in sheer numbers of women on campus, to their movement into historically male-dominated fields and levels of study, and into higher educational faculties, administration, and governance. This section will document one part of that transformation--the undergraduate enrollment experience, as analyzed through its components.

The record for women in regard to equity of higher educational opportunity, which shows continuous progress, is presented here to contrast with the record of success followed by failure of minorities and the low income, where success was transitory, incomplete, and often illusory. The equity experience of women, however, occurred at the same time, under similar conditions, and with goals similar to those of blacks working for civil rights, economic opportunity, social status, and other measures of equality in America. The contrast between the success of women and the failure of minorities and the low income is the central finding of the study presented in this paper.

Preparation for College

Admission to college is usually determined by the college on the basis of the applicant's preparation to perform college-level academic work. Admissions requirements may include a high school diploma, successful previous curricular experience, and/or a promise of potential for success as measured by a college admissions test. In this section we will review the qualitative (test score) preparation for college, as well as the quantitative (high school graduation) preparation, of women compared to men.

Academic preparation. The National Assessment of Educational Progress (NAEP) is a federal program designed to determine the progress of a broad spectrum of American youth in elementary and secondary education. The NAEP was initiated in 1969 and has been conducted periodically since then. The educational accomplishments of 9, 13, and 17 year olds are surveyed in 10 learning areas. The NAEP results are available by gender in reports published from time to time by NAEP. Table 1 summarizes these results for the academic subjects of mathematics, science, reading, writing, and civics.

While the NAEP assessment results do not span the period of time we are concerned with here--before 1965 up to the present--they do provide a useful source of information on the changing preparation of males and females in elementary and secondary education to do college academic work. The results are not particularly satisfying: 17 year old

TABLE 1
National Assessment of Educational Progress
Scores on Mathematics, Science, Reading, Writing, and Civics Tests for 9, 13, and 17 Year Olds by Gender
1971-1988

	Age 9			Age 13			Age 17		
	Males	Females	Diff.	Males	Females	Diff.	Males	Females	Diff.
Mathematics (Scores: 0 to 500)									
1973	217.7	220.4	+2.7	265.1	266.9	+1.8	308.5	300.6	-7.9
1978	217.4	219.9	+2.5	263.6	264.7	+1.1	303.8	297.1	-6.7
1982	217.1	220.8	+3.7	269.2	268.0	-1.2	301.5	295.6	-5.9
1986	221.7	221.7	0	270.0	268.0	-2.0	304.7	299.4	-5.3
73-86:	+4.0	+1.3	-2.7	+4.9	+1.1	-3.8	-3.8	-1.2	+2.6
Science (Scores: 0 to 500)									
1970	227.6	222.7	-4.9	256.8	253.0	-3.8	313.8	296.7	-17.1
1973	222.5	218.4	-4.1	251.7	247.1	-4.6	304.3	288.3	-16.0
1977	222.1	217.7	-4.4	251.1	243.8	-7.3	297.1	282.3	-14.8
1982	221.0	220.7	-.3	255.7	245.0	-10.7	291.9	275.2	-16.7
1986	227.3	221.3	-6.0	256.1	246.9	-9.2	294.9	282.3	-12.6
70-86:	-.3	-1.4	-1.1	-.7	-6.1	-5.4	-18.9	-14.4	+4.5
Reading (Scores: 0 to 500)									
1971	200.9	213.7	+12.8	249.5	260.9	+11.4	279.0	291.5	+12.5
1975	204.4	215.9	+11.5	249.6	262.4	+12.8	280.1	291.8	+11.7
1980	209.7	220.0	+10.3	254.3	262.7	+ 8.4	282.1	289.5	+7.4
1984	207.7	214.2	+6.5	252.7	261.7	+9.0	283.8	293.9	+10.1
1988	207.5	216.3	+8.8	251.8	263.0	+11.2	286.0	293.8	+7.8
71-88:	+6.6	+2.6	-4.0	+2.3	+2.1	-.2	+7.0	+2.3	-4.7
Writing/Informative (Scores: 0 to 6)									
1979	2.5	3.0	+.5	2.8	3.3	+.5	3.1	3.7	+.6
1984	2.6	3.2	+.6	2.9	3.5	+.6	3.4	3.8	+.4
79-84:	+0.1	+0.2	+.1	+0.1	+0.2	+.1	+0.3	+0.1	-.2
Writing/Persuasive (Scores: 0 to 6)									
1979	2.8	3.3 +	.5	2.5	3.1	+.6	2.9	3.5	+.6
1984	2.5	3.3	+.8	2.7	3.3	+.6	3.3	3.9	+.6
79-84:	-0.3	0.0	+.3	+0.2	+0.2	0	+0.4	+0.4	0
Writing/Imaginative (Scores: 0 to 6)									
1974	2.3	3.1	+.8	2.8	3.5	+.7	3.4	4.1	+.7
1979	2.4	3.0	+.6	2.5	3.3	+.8	3.1	3.8	+.7
1984	2.7	3.3	+.6	2.7	3.3	+.6	3.3	4.0	+.7
74-84:	+0.4	+0.2	-.2	-0.1	-0.2	-.1	-0.1	-0.1	0
Civics (Scores: 0 to 100)									
1976				49.7	48.5	-1.2	63.5	60.0	-3.5
1982				50.1	48.2	-.9	63.1	59.6	-3.5
1988				50.5	49.5	-1.0	61.2	58.2	-3.0
76-88:				+0.8	+1.0	+.2	-2.3	-1.8	+.5

Source: National Assessment of Educational Progress, various reports.

females have not made progress in academically preparing themselves for college work since the advent of NAEP assessment. In mathematics and science, their average scores in 1986 were below scores obtained from testing in the early 1970s. The results, however, were worse for males in these two areas. Both females and males made some progress in reading over this period and, for more recent testing periods, in writing also.

Results from the ACT Assessment indicate how well prepared college-bound high school seniors are to perform college academic work. Figure 5 shows the mean ACT Composite scores for college-bound high school seniors by gender for the years 1977 through 1989. We saw in Figure 1 steady growth during this period in the proportion of 18 to 19 year old women enrolled in college. As the proportion of the population enrolled in college increases, one might expect the mean college test score to decline as lower ability women seek to enter college. However, the mean ACT Composite score has gradually increased from 17.6 to 18.0-especially since 1985. Though this difference is slight, it suggests that at least for ACT-tested females and males, improvements in college enrollment rates have been accompanied by increases in mean test scores for college-bound high school seniors.

The mean ACT Composite score for American females has increased in lock-step with ACT scores for males since 1977, as shown in Figure 6. The Composite score masks some slight differences in area test results: compared to males, ACT math test scores for females are increasing, while scores for females are decreasing on the ACT science test.

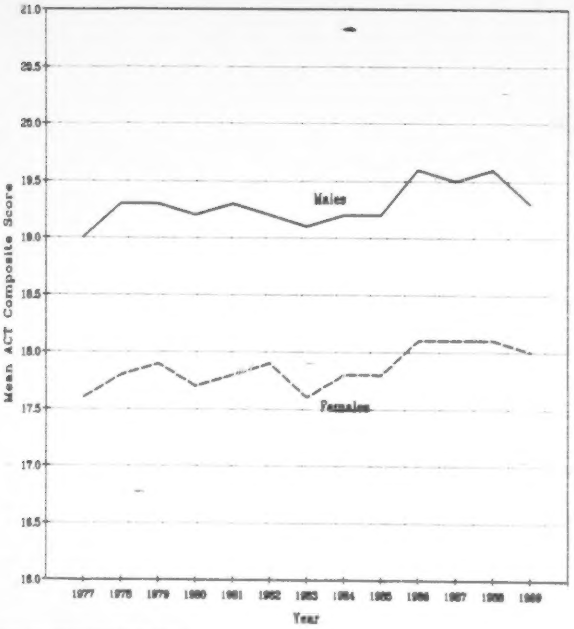
The overall results, however, are mixed and unclear with respect to female academic preparation for college. The NAEP results, generally disappointing, show no improvement in test score performance in elementary and secondary grades in most subjects over a decade and half when college enrollment rates were increasing. The ACT Assessment results are more encouraging, with female test scores managing to increase slightly at the same time that the proportion of 18 and 19 year old females going on to college has increased.

High school graduation. The second measure of academic preparation for college we will review here is high school graduation rates; that is, what proportion of the population has graduated from high school over time?

This issue introduces a complicating feature of the kind of analysis of data employed here--some people take longer to graduate from high school than others. This is particularly true for men, compared to women, and especially before age 20. Figure 7 shows high school graduation rates for 1989 by gender for different age cohorts between ages 18 and 34. Clearly, at each age interval, a larger proportion of women than men had graduated from high school. This difference was most pronounced in the 18 to 19 year old cohort. By age 20 to 21, nearly 85 percent of the population had received a high school diploma (or its GED equivalent), and the proportion of the population completing high school later than this increased only slightly.

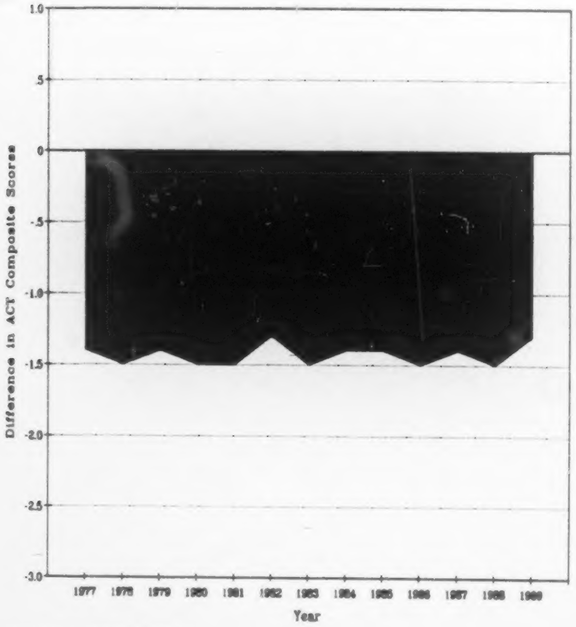
Given the completion of high school for most people by age 20 to 21, we examine the proportion of the population age 20 and 21 that had graduated from high school by gender for the years 1967 through 1989. For men, high school graduation rates increased mainly

FIGURE 5
ACT COMPOSITE SCORES
FOR COLLEGE BOUND MALES AND FEMALES
1977-1989



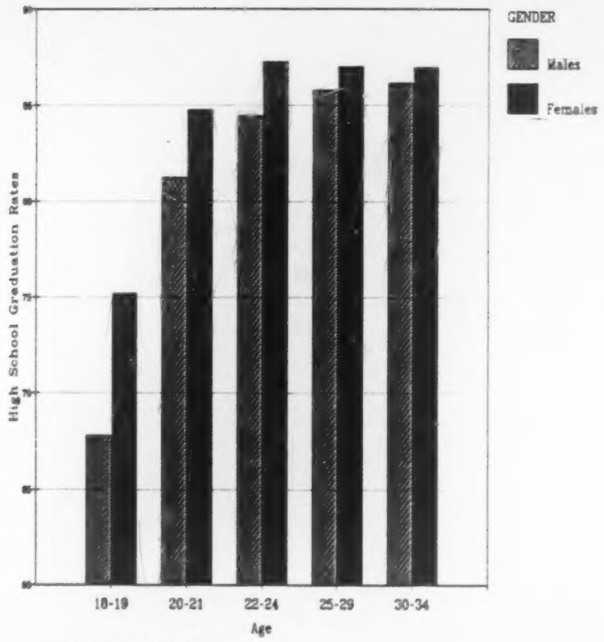
Source: The American College Testing Program

FIGURE 6
ACT COMPOSITE SCORE DIFFERENCE
BETWEEN COLLEGE BOUND MALES AND FEMALES
1977 TO 1989



Source: The American College Testing Program

FIGURE 7
HIGH SCHOOL GRADUATION RATES
BY AGE AND GENDER
1989



Source: Current Population Survey, Series P-20.

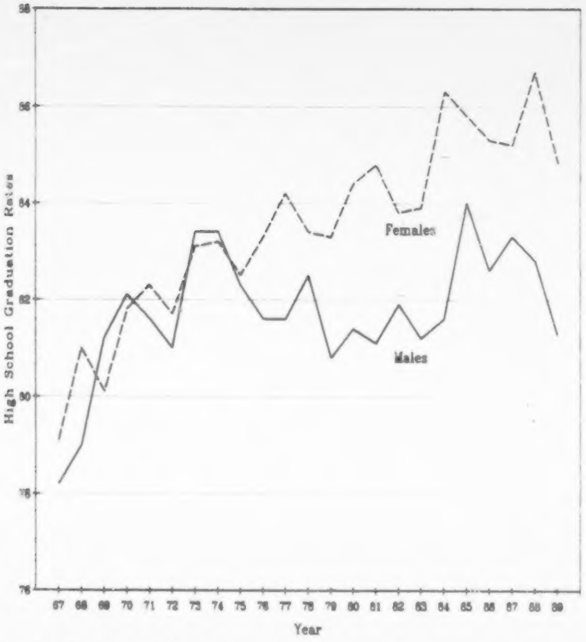
between 1967 and about 1973, no doubt exemption from military service during the Vietnam War for those enrolled in college.* Since 1973 there have been fluctuations in high school graduation rates for 20-21 year old men, but even by 1989 this rate was below rates recorded in 1973 and 1974.

For women a different and more dramatic picture emerges--almost steady progress in high school graduation rates over the two decade span. High school graduation rates increased from about 79 percent in 1967 to about 85 percent by 1989 (see Figure 8).

Figure 9 displays the high school graduation gap that results from Figure 8, a gap in this case for young men rather than women. Because the female high school graduation rate increased after 1974, while the rate for males first declined and then recovered only slightly, there now exists a substantial gap for young men compared to women. Count persistence to high school graduation a decided plus for young women in preparation for admission to college, especially since the mid 1970s.

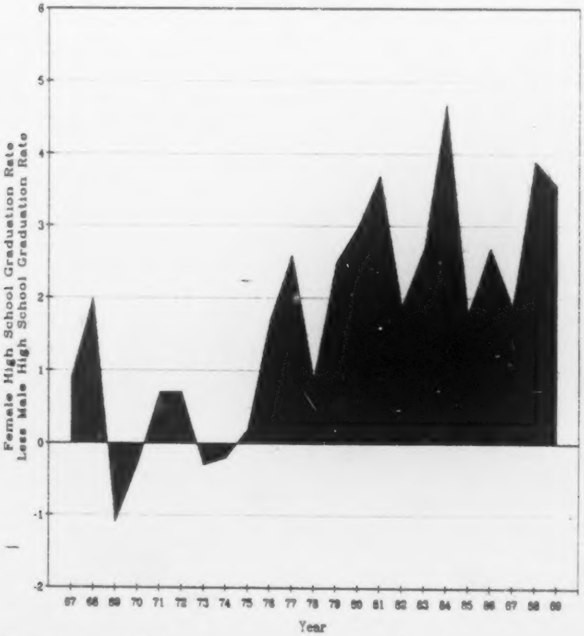
* The military draft exemption for collegiate enrollment influenced high school graduation rates for males (Figure 8), their college entrance rates (Figure 10), persistence in college (Figure 25), and baccalaureate degree attainment (Figure 28). Some years later, it influenced the proportion of men that had earned a baccalaureate degree by age 25 to 29 (Figure 106). For the period of their military service, men who enlisted or were inducted into the military during the Vietnam War were excluded from the Current Population Survey which is limited to the civilian noninstitutional population. After their return to civilian life, they reenter the population and the CPS samples drawn from it.

FIGURE 8
HIGH SCHOOL GRADUATION RATES BY GENDER FOR 20 AND 21 YEAR OLDS
1967 TO 1989



Source: Current Population Survey, P-20.

FIGURE 9
HIGH SCHOOL GRADUATION GAP FOR 20 AND 21 YEAR OLD FEMALES
1967 TO 1989



Source: Current Population Survey, P-20.

Neither NAEP nor ACT test scores show any particular improvement in academic preparation for college for females compared to males. However, females have clearly outperformed males in persistence through high school to graduation. They graduate both sooner and to a greater degree than do males. Males do tend to out score females on many academic tests, but quantitatively, a larger number of females coming through secondary education are now better prepared than males to pursue collegiate study by virtue of their higher high school graduation rates.

Access to College

The transition from high school into college may be immediate or delayed. The most efficient and successful transition--in terms of eventual graduation from college with a baccalaureate degree--is to continue into college immediately after high school graduation (Carroll, 1989). We focus our analysis here on the immediate transition from high school to college.

Recent high school graduates. The Bureau of Labor Statistics reports information on the collegiate enrollment status of recent high school graduates based on data collected in the Current Population Survey. ("Recent high school graduate" is an individual who has received a high school diploma or GED during the preceding twelve months.) Collegiate enrollment status is determined as of October of each CPS survey. These data, which span the years 1959 to 1989, are plotted for men and women in Figure 10.

The patterns in these data are striking but not unlike the data shown in Figure 3 (which was not limited to high school graduates). The proportion of female recent high school graduates entering college has increased almost steadily, without major interruption, from about 38 percent in 1959 and 1960 to a peak of nearly 62 percent by the fall of 1989, an increase of 24 percent over three decades. In contrast, the proportion of male recent high school graduates increased from about 54 percent to about 58 percent, or just 4 percent, during this same period.

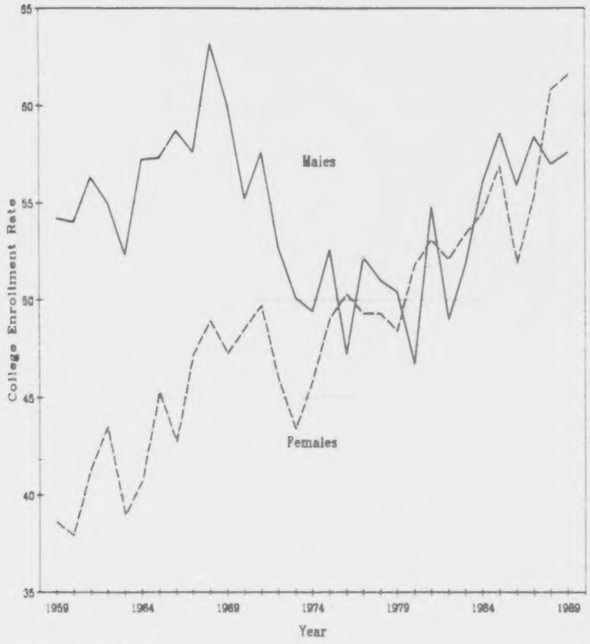
The difference between the college entrance rate of recent male and female high school graduates is plotted in Figure 11. The access gap between women and men, which averaged about 14 percent between 1959 and 1969, closed by 1976. Except for a brief return to some inequity in the mid 1980s, the gender gap in college access has remained closed between 1976 and 1989.

Another way of presenting this accomplishment is to quantify the results. If the college access gap that existed in the 1960s still existed in 1988, the number of young women going on to college from high school in 1988 would have been only 576,000 instead of 814,000. That is, 238,000 (41 percent) more women high school graduates went on to college in 1988 than would have been the case if the college access gap had not been closed.

Military enrollments. A relatively minor aspect of the expansion of opportunities for women has been the expanding proportion of women high school graduates entering military service. In this portion of this paper, we do not dwell on this phenomenon but merely provide some basic facts to acknowledge this alternative.

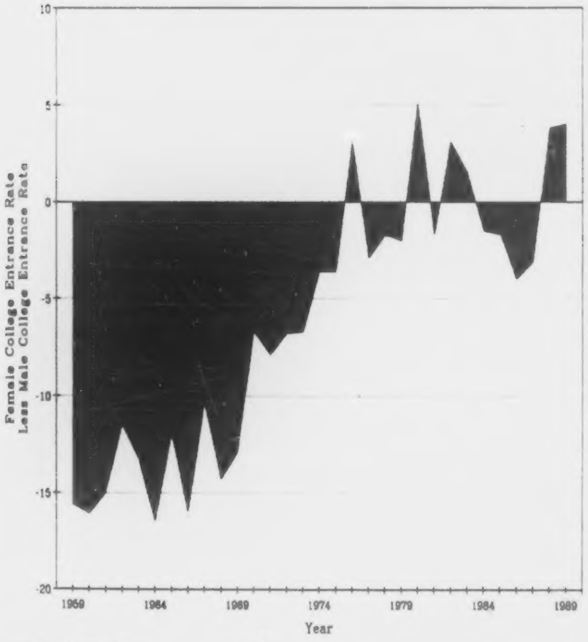
In 1976, about 8 percent of the 18 to 19 year old white high school graduates enrolled in military service were female. By 1986 the figure was about 9 percent. For blacks, the proportion of 18 to 19 year old female high school graduates enrolled in the military increased from about 6 percent in 1976 to about 13 percent by 1986. While

FIGURE 10
COLLEGE ENROLLMENT RATES FOR RECENT HIGH SCHOOL GRADUATES BY GENDER
1959 TO 1989



Source: Bureau of Labor Statistics

FIGURE 11
COLLEGE ACCESS GAP FOR RECENT FEMALE HIGH SCHOOL GRADUATES
1959 TO 1989



Source: Bureau of Labor Statistics

female high school graduates constitute a small share of the 18 to 19 year old military population, women high school graduates generally and black women high school graduates in particular have increased their proportional representation in military branches. More information concerning the representation of blacks and Mexican-Americans in the military will be presented later in this paper.

Reasons for attending college. As a part of this study, we have examined the reasons for attending college reported in the annual National College Freshmen Norms survey of enrolled college freshmen. These data are collected as a part of the annual survey conducted by Astin and his colleagues at The American Council on Education and the University of California at Los Angeles. Survey data have been reported separately for men and women who were enrolled as full-time, first-time college freshmen in 1971, and 1976 through 1989.

For the most part, college freshmen men and women have similar reasons for attending college--e.g., to get a better job, make more money, learn more about things, and gain a general education. Moreover, the trends in responses of men and women college freshmen have been largely parallel over time.

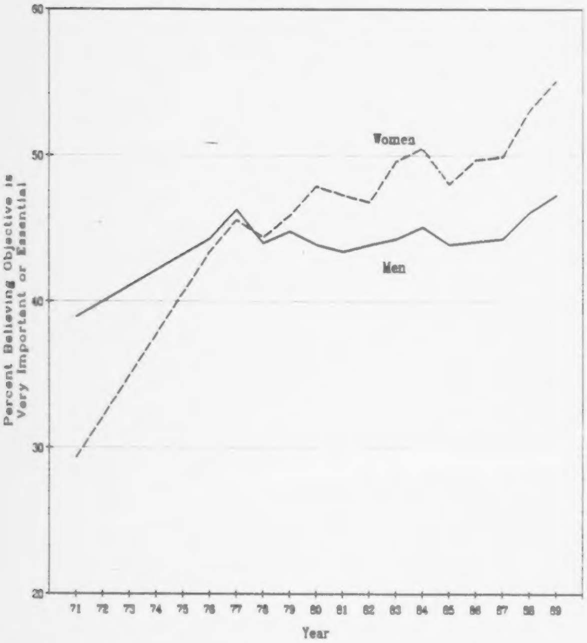
On a few key survey responses, however, the pattern of responses has shifted notably since 1971. These survey items generally refer to career aspects of reasons for attending college. For example, as shown in Figure 12, while the proportion of male freshmen citing the reason "to prepare for graduate school" has increased by 7 percent between 1971 and 1986, the proportion of female freshmen giving this reason has increased by 24 percent. As shown in Figure 13, females were less likely than males to cite this reason in 1971, but more likely by 1989. Notably on the career-related survey responses, female college freshmen have become more like male freshmen in their given reasons for attending college. These responses include "to make more money" and "to get a better job."

Objectives in life. Because of the career-oriented shift in young women's reasons for attending college, we have extended our analysis to examine their objectives for their lives after college through the National College Freshmen Norms survey. These results are even more revealing of the underlying drives, ambitions, tradeoffs, and changes occurring in the population of American college freshmen women over the last two decades.

The first finding, over the last two decades, is the growing importance freshmen women attach to improving their social and economic status. In the Norms, freshmen women report greatly increased importance attached to such objectives as "obtain recognition from peers," "become an authority in their field," "have administrative responsibility for others," "succeed in their own business," "and to be very well off financially." This growth has occurred among freshmen men also, but not to the extent that it has among women. Thus, the historical gaps between men and womens' social and economic objectives in life have narrowed considerably. Figures 14 and 15 illustrate this shift for the objective of "becoming very well off financially."

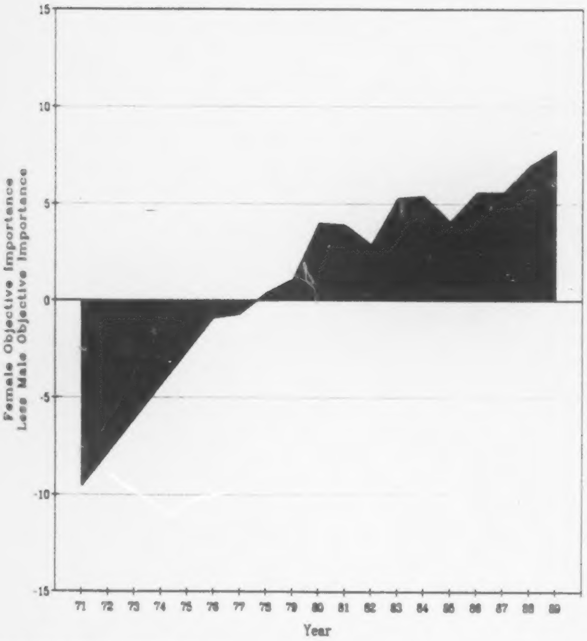
The second finding is that women now are less likely to cite the objective "developing a philosophy of life" as a reason for attending college. Apparently, many freshmen women have decided that social and economic status are substitutes for a philosophy of life as motivation for attending college. Figure 16 shows the importance of this objective to men and women college freshmen since 1966, and Figure 17 shows how the gap between men and women regarding the importance of the need to develop a philosophy of life has narrowed over the same period of time.

FIGURE 12
REASON FOR ATTENDING COLLEGE TO PREPARE FOR GRADUATE SCHOOL BY GENDER
1971 TO 1989



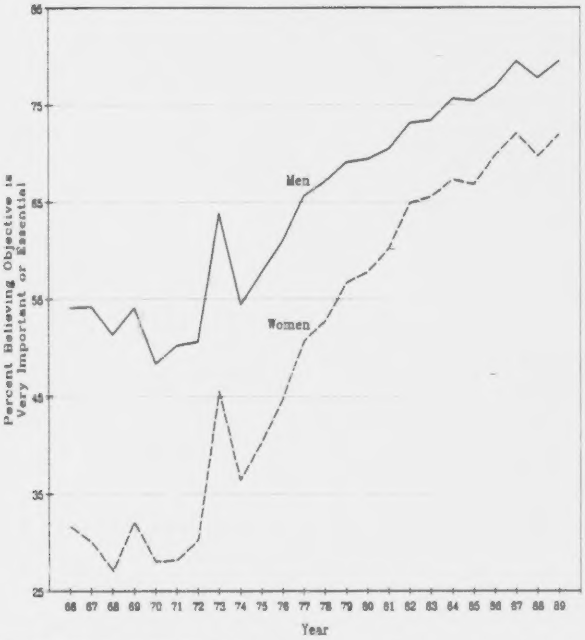
Source: National College Freshman Norms, CIRP, annual.

FIGURE 13
REASON FOR ATTENDING COLLEGE GAP FOR FEMALES TO PREPARE FOR GRADUATE SCHOOL
1971 TO 1989



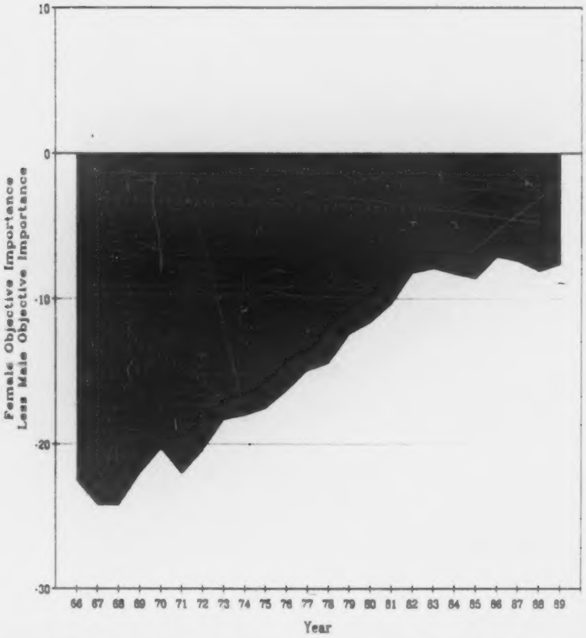
Source: National College Freshman Norms, CIRP, annual.

FIGURE 14
OBJECTIVE TO BECOME VERY WELL OFF FINANCIALLY BY GENDER
1966 TO 1989



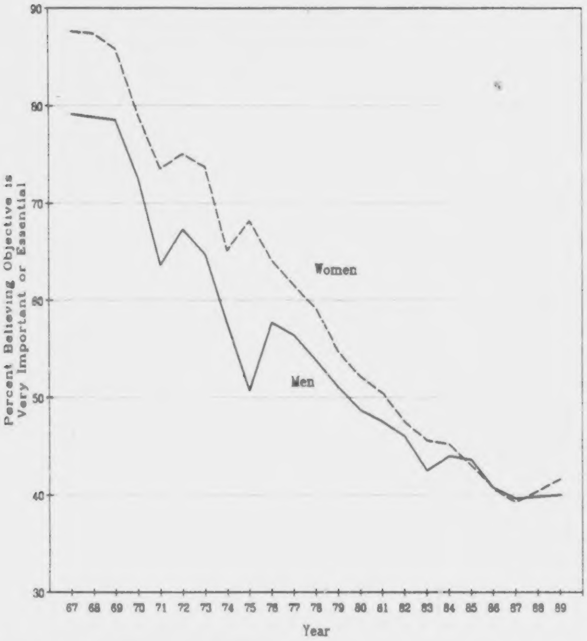
Source: National College Freshmen Norms, CIRP, annual.

FIGURE 15
OBJECTIVE TO BECOME VERY WELL OFF FINANCIALLY GAP FOR FEMALES
1966 TO 1989



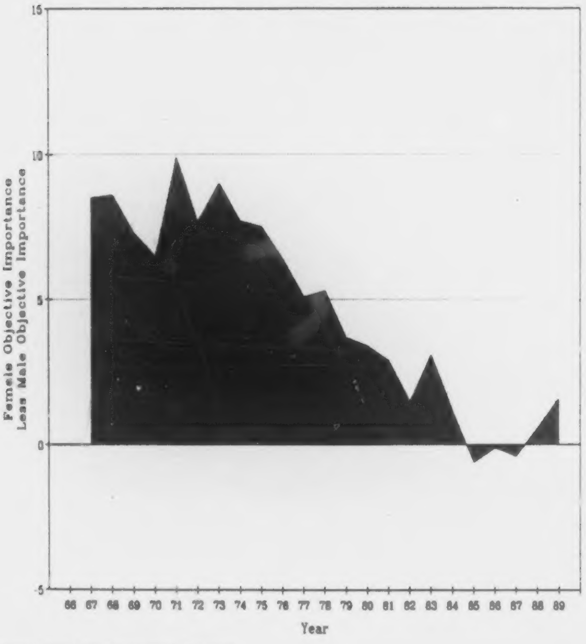
Source: National College Freshmen Norms, CIRP, annual.

FIGURE 16
OBJECTIVE TO DEVELOP A PHILOSOPHY OF LIFE
BY GENDER
1967 TO 1989



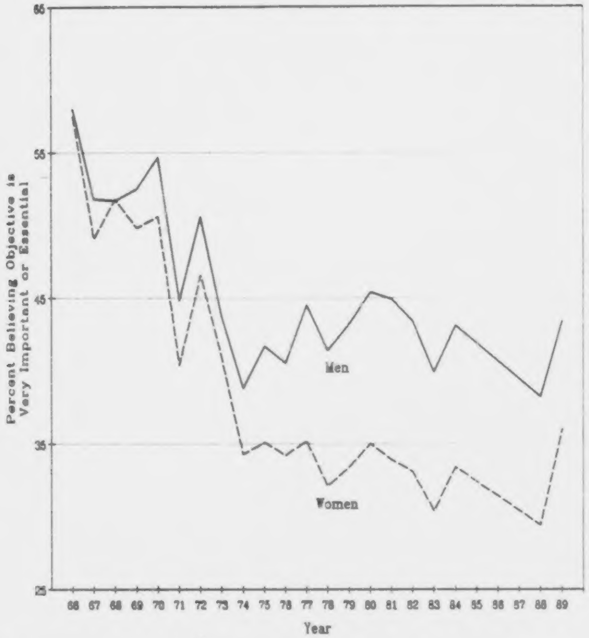
Source: National College Freshman Norms, CIRP, annual.

FIGURE 17
OBJECTIVE TO DEVELOP A PHILOSOPHY OF LIFE
GAP FOR FEMALES
1966 TO 1989



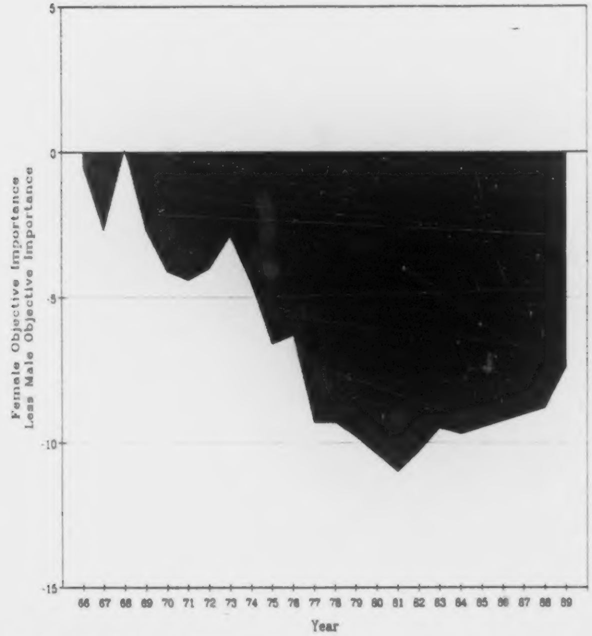
Source: National College Freshman Norms, CIRP, annual.

FIGURE 18
OBJECTIVE TO KEEP UP WITH POLITICAL AFFAIRS
BY GENDER
1966 TO 1989



Source: National College Freshmen Norms, CIRP, annual.

FIGURE 19
OBJECTIVE TO KEEP UP WITH POLITICAL AFFAIRS
GAP FOR FEMALES
1966 TO 1989



Source: National College Freshmen Norms, CIRP, annual.

The third finding is that as freshmen women have set their sights on higher social and economic status, they have been willing to trade off other objectives previously held to be more important. Freshmen women in 1989 reported as less important objectives such as "involvement in environmental cleanup," "keeping up with political affairs," "participation in community action," and "helping others in difficulty." In most of these cases, the trends in freshmen men's objectives paralleled those of women, but women's interest in these objectives declined more than the interest of freshmen men between the late 1960s and 1989. For example, Figure 18 shows the importance of the objective of "keeping up with political affairs" to men and women college freshmen between 1966 and 1989. For both sexes, the importance has declined. However, the importance has declined more for women than men, as emphasized in Figure 19.

These data and graphics portray momentous change in the life objectives considered essential or very important to American freshmen women between 1966 and 1989. Women have become more like freshmen men in their objectives--more concerned with social and economic status, less concerned about developing a philosophy of life--and have decided to trade off other opportunities and commitments in order to achieve these new goals. Clearly, higher education generally and graduate and professional school in particular have become viewed by freshmen women as the path toward these ends in the last 24 years of the Norms survey.

College Choice

A fundamental component of equity of higher educational opportunity is the ability to choose one's college to pursue one's higher educational ambitions. American higher education operates in a relatively free market, where admissions decisions are made jointly by institutions and students. Students are free to apply to many institutions, and many choose to do so. Institutions, in turn, are free to choose among their applicants, on the basis of their own criteria. When the student's and institution's decisions coincide, the student has an opportunity to enroll in a particular college.

The student's ability to choose his/her college is a special concern in student financial aid policy. Financial need is the flexible difference in the financial aid equation that accepts fixed college attendance costs and a set expected family contribution that is independent of costs. Financial aid is packaged to meet financial need. The concern for meeting need through aid is reflected in financial aid amounts that address different levels of tuition, fees, room and board, and other attendance and living costs that vary from college to college. Ideally, financial aid thereby neutralizes the influence of different institutional charges on student choice of a college. Instead, financial aid that meets need permits the student to focus on objectives such as the academic reputation of the institution, the quality and selection of the programs it offers, its location, the job and graduate/professional school placement success of its graduates, and other distinguishing institutional characteristics.

In this study we examine two aspects of college choice for freshmen men and women: freshmen that have college choice and why they have it, and freshmen enrollment in first choice college.

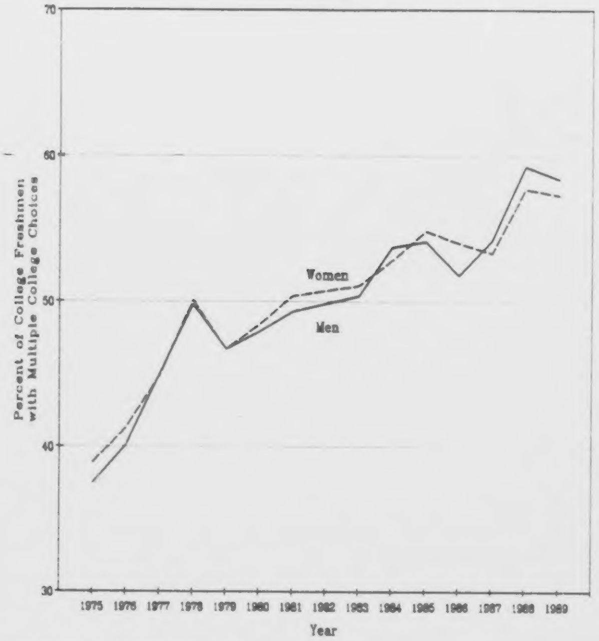
Multiple college choices. A student who has applied to more than one college for admission, and who has been accepted by more than one college for admission, has a choice of which college to enroll in. Both conditions must be met for the opportunity of choice to exist.

Over the last several decades, American college freshmen have increased their applications for college admission. Not only have more students applied to more than one college for admission, but those who have done so have also made applications to more colleges. High school guidance counselors have encouraged their students to "shop" for and examine alternative opportunities in American higher education.

As a result, the proportion of male college freshmen that have applied to more than one college for admission has increased from 54 percent in 1975 to 70 percent in 1989, while the proportion of female freshmen has increased from 54 percent to 68 percent. By a small margin males report that they have made more college admissions applications than females.

Concurrently, and in direct response to increasing numbers of multiple freshmen admissions applications, colleges have had to increase the proportion of applicants accepted for admission. This is reflected in the proportion of enrolled freshmen that have made more than one application for admission who report that they have been accepted by more than one college for admission. Between 1975 and 1989, the proportion of freshmen men who made multiple college applications and reported that they had received multiple college acceptances increased from 69 percent to 84 percent. Similarly, these proportions for women increased from 73 percent to 85 percent during the same period. Women are more likely than men to be accepted by more than one college for admission.

FIGURE 20
MULTIPLE COLLEGE CHOICES
BY GENDER
1975 TO 1989



Source: National College Freshman Norms, CIRP, annual.

The product of multiple college applications and multiple college acceptances yields multiple college choices. These data are charted in Figure 20 for men and women college freshmen between 1975 and 1988. For men, the proportion having more than one college from which to choose increased from 38 percent in 1975 to 58 percent by 1989. For women, the proportion increased from 39 to 57 percent during the same period. As Figure 20 makes clear, the experience for women freshmen tracked very closely with the experience for men. Moreover, the shopping experience of both men and women has been highly successful: a greater proportion of both genders have college choice now than was the case during the mid 1970s.

Enrollment in first choice college. The success of men and women in applying to more colleges for admission, and having their applications accepted by the colleges, stands in sharp contrast to the declining proportion of enrolled men and women who report that they are enrolled at their first choice college. As shown in Figure 21, the proportion of men enrolled in their first choice college declined from a peak of 77 percent in 1975 to 69 percent by 1989. During the same period, the proportion for women declined from 79 percent to 69 percent. Over the time span cited here, women have quite consistently enrolled in the first choice college more often than men. However, this gap has narrowed in the last few years, as shown in Figure 22. The rate of first choice enrollment for women has declined faster than the rate for men for the last four years.

Highest degree planned. Currently, more than 90 percent of all college freshmen who are first time and full time plan to earn at least a bachelor's degree. Among freshmen entering four year colleges this proportion is 95 percent, and it is nearly 98 percent among freshmen entering universities. Even among freshmen entering two year colleges, over three-quarters plan to continue their studies elsewhere to earn a bachelor's degree. Since 1966 the proportion of all freshmen planning to earn at least a bachelor's degree has increased overall--from 87 to 92 percent--and within each college type.

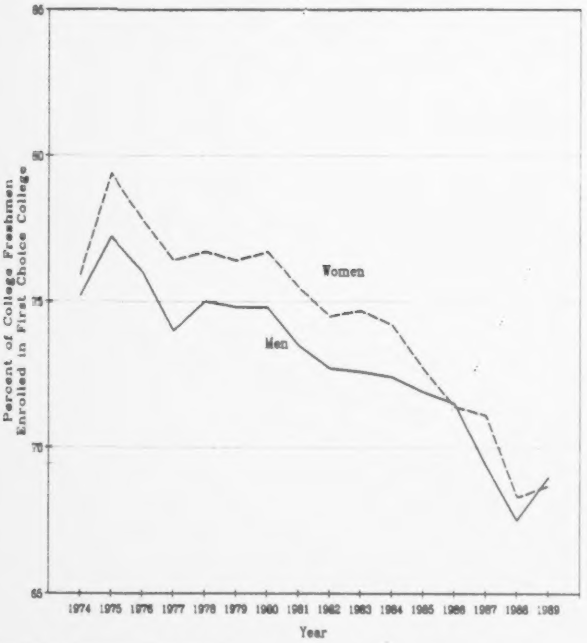
When data on highest degree planned are disaggregated by gender, patterns emerge that are consistent with data presented so far on high school graduation and college entrance rates. Figure 23 shows the proportion of men and women college freshmen between 1966 and 1989 reporting that their highest degree planned is at least a bachelor's degree. For both groups, these rates have increased substantially since the mid 1970s.

More important to this study, however, is the difference between the proportions of male and female college freshmen reporting that their highest degree planned was at least a bachelor's degree. As shown in Figure 24, this difference appears to have widened between 1966 and 1970, from less than 2 percent to a maximum of more than 6 percent. Since 1970, the gap in highest degree planned has closed, and much of this closure has occurred since 1979.

College Completion

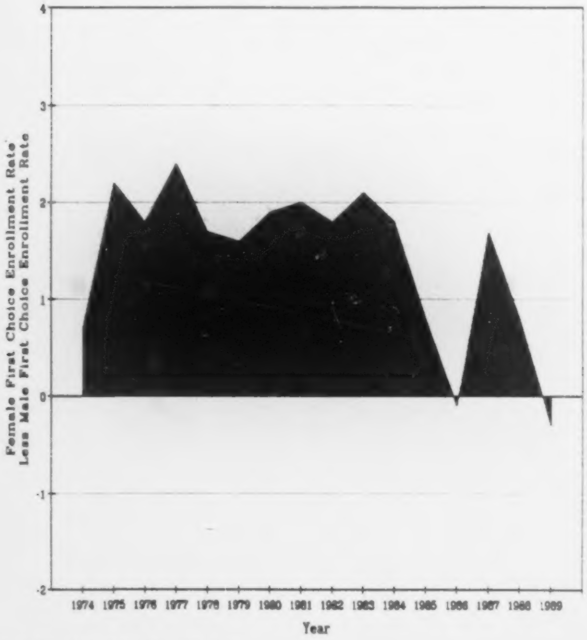
College Completion refers here to the completion of four or more years of college among those who start college. We use in this analysis the rate at which 25 to 29 year olds who start college complete four years or more of college. The analysis is conducted by gender for the years 1964 through 1987 from the Census Bureau's Current Population Survey on educational attainment.

FIGURE 21
ENROLLMENT IN FIRST CHOICE COLLEGE BY GENDER
1974 TO 1989



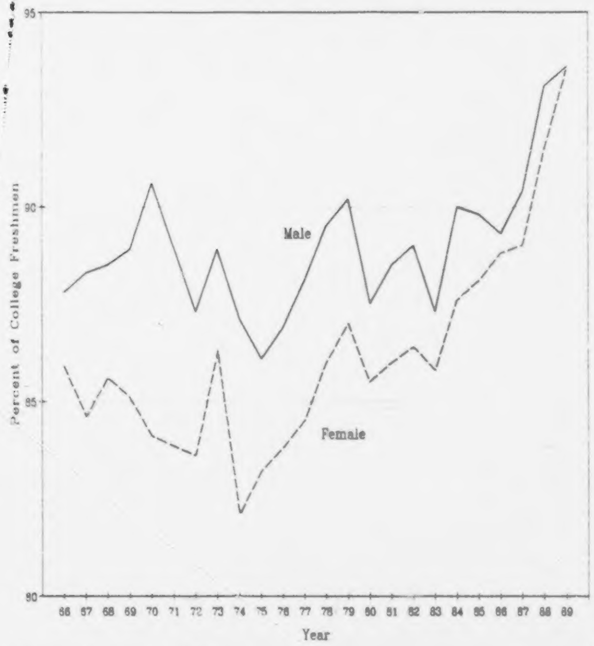
Source: National College Freshmen Norms, CIRP, annual.

FIGURE 22
GAP IN ENROLLMENT IN FIRST CHOICE COLLEGE FOR FEMALES
1974 TO 1989



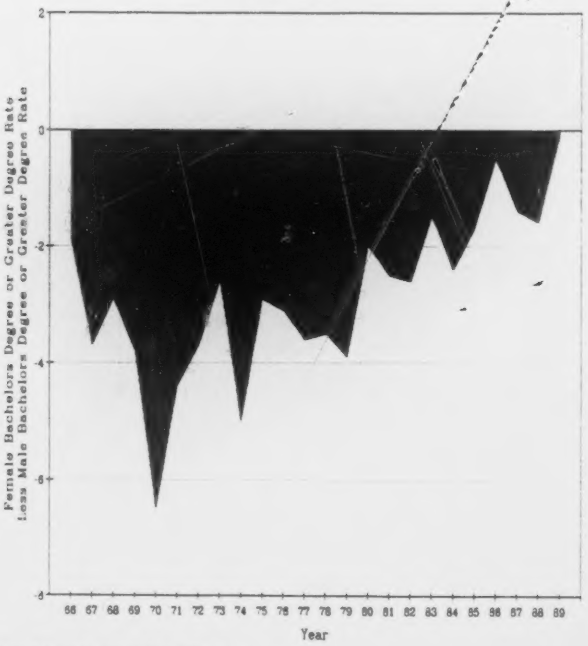
Source: National College Freshmen Norms, CIRP, annual.

FIGURE 23
HIGHEST DEGREE PLANNED IS BACHELORS OR GREATER FOR COLLEGE FRESHMEN BY GENDER
1966 TO 1989



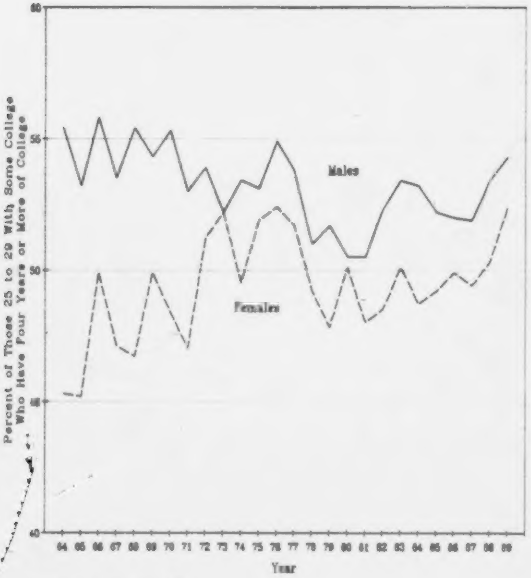
Source: National College Freshmen Norms, CIRP, annual.

FIGURE 24
HIGHEST DEGREE PLANNED IS BACHELORS OR GREATER GAP FOR FEMALE COLLEGE FRESHMEN
1966 TO 1989



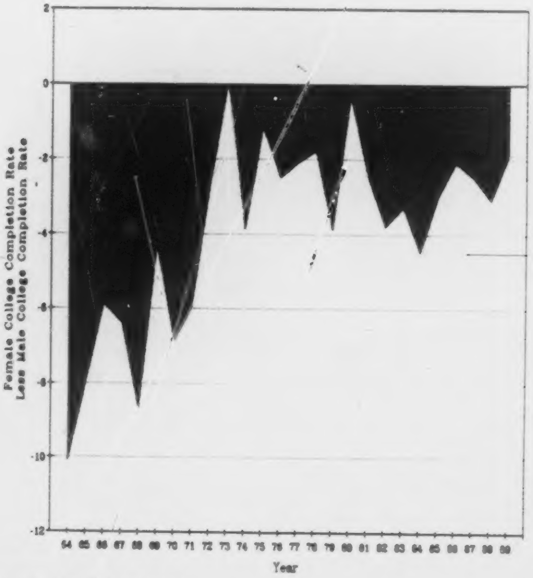
Source: National College Freshmen Norms, CIRP, annual.

FIGURE 25
COLLEGE COMPLETION RATES
FOR PERSONS 25 TO 29 YEARS OLD BY GENDER
1964 TO 1989



Source: Current Population Reports, Series P-20.

FIGURE 26
COLLEGE COMPLETION GAP
FOR FEMALES AGE 25 TO 29 YEARS OLD
1964 TO 1989



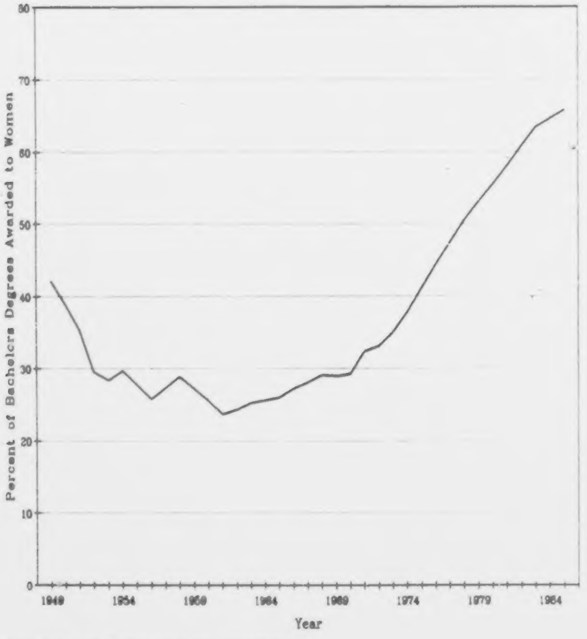
Source: Current Population Reports, Series P-20.

Since 1964, the proportion of 25 to 29 year old men with some college who complete four years or more of college has decreased somewhat, from 55 percent in the 1960s to 54 percent by 1989. For women in the same age range, the proportion that complete four years or more of college increased from 45 percent in the mid 1960s to a peak of 52 percent by 1976, and is currently 53 percent. These data are shown in Figure 25.

Figure 26 shows that, as a result of these fluctuations, the gap in college completion for women was closed, from 10 percent in 1964 to 0 percent by 1974. Since 1974, the gap between women and men college completion rates has remained close to 2 percent, except when the gap reopened briefly to about 4 percent in 1983.

These data require some qualification, since community college enrollments are included in these data. They do, however, demonstrate substantial gains in college completion for women compared to men between 1964 and 1974. Since then, the earlier gains have been largely preserved. Despite the deterioration in college completion rates for both men and women between the mid 1970s and about 1980, these results are not disappointing in terms of the search for equity of women's higher educational opportunity.

FIGURE 27
BACCALAUREATE DEGREES AWARDED TO WOMEN
IN HISTORICALLY MALE DOMINATED ACADEMIC FIELDS
1949 TO 1985



Source: Earned Degrees Conferred, Digest of Educational Statistics, NCES.

Fields of Study

Historically, women in higher education were concentrated in a narrow range of academic fields. During the 1950s and 1960s, about three-quarters of all baccalaureate degrees earned by women were earned in fields dominated by women: education, English, home economics, sociology, nursing, fine arts, foreign languages, and medical technology. The remaining quarter of the baccalaureate degrees were earned by women in fields dominated by men.

Beginning gradually after 1961, and accelerating quickly after 1970, women in higher education expanded their fields of baccalaureate study into academic areas long dominated by men and concurrently moved out of the traditional female disciplines. By 1978 more than half of all bachelor's degrees earned by women were awarded in fields that, in the past, had been dominated by men. By 1985 about two-thirds were awarded in fields that had been dominated by men. Figure 27 charts these data.

The academic fields of study where women had historically been concentrated lost women at different times. Other fields, such as nursing, have retained their attraction for women. The following table illustrates the timing of peaks, and the magnitude of losses, in baccalaureate degrees awarded to women in academic fields historically dominated by women.

TABLE 2
Baccalaureate Degree Awards to Women
in Historically Female-Dominated Academic Fields

Academic Field	Peak Year	Bachelor Degrees Earned	Percent of All Degrees Earned by Females	1985 Bachelor Degrees Earned	1985 Percent of All Degrees by Females
Education	1973	143,816	35.2%	66,897	13.5%
English	1970	40,259	11.7	15,830	3.2
Home Economics	1980	17,550	3.9	14,539	2.9
Sociology	1974	20,582	4.9	8,267	1.7
Nursing	1985	31,717	6.4	31,717	6.4
Fine Arts	1980	25,827	5.7	23,430	4.7
Foreign Language	1969	16,070	5.0	7,304	1.5
Medical Tech.	1976	4,356	1.0	2,222	.4

Source: National Center for Education Statistics, Earned Degrees Conferred, annual.

As women have moved out of historically female dominated academic fields, they have entered academic fields dominated in the past by men and have come to dominate new academic fields that have appeared during the last four decades. In established fields, this shift has been so pronounced that in some fields, such as baccalaureate level psychology, women have replaced men with larger numbers. In other fields, such as engineering, women's share of degrees has increased though the field remains dominated by men. These data are shown in Table 3.

TABLE 3
Proportion of Baccalaureate Degrees Earned by Women in Selected Academic Fields
1950 to 1985

Academic Field	1950	1960	1970	1975	1980	1985
Agriculture	1.3%	1.9%	5.2%	14.1%	29.6%	31.1%
Architecture	4.5	3.2	5.2	17.4	27.7	35.5
Biology	22.1	25.3	27.9	33.3	42.1	47.8
Business	8.6	7.6	9.0	16.4	33.6	45.1
Engineering	.3	.4	.8	2.2	9.3	14.7
Public Administration	7.7	7.5	6.0	19.9	33.9	49.1
Pharmacy	7.7	11.9	18.8	28.1	40.1	53.2

Source: National Center for Education Statistics, Earned Degrees Conferred, annual.

Baccalaureate Degree Attainment

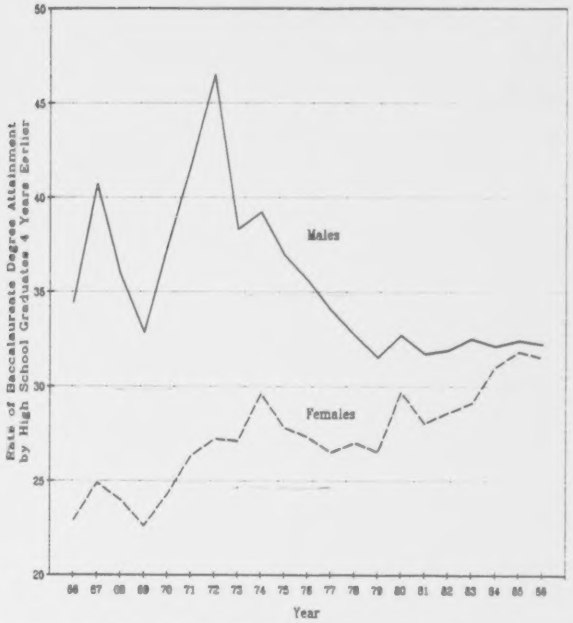
Finally, we summarize and consolidate the preceding data on college access and completion into a single measure of equity of higher educational opportunity for women compared to men. This measure is constructed by dividing the number of baccalaureate degrees awarded in a given year by the number of high school graduates four years earlier, by gender, for the period 1966 through 1986. This single measure obscures important analytical distinctions made earlier and clearly ignores the possibilities of attaining a baccalaureate degree more than 4 years after high school (as many recipients do). In partial defense, however, we note that those most likely to earn a baccalaureate degree are those who continue on to college immediately after high school and pursue their studies on a full-time basis. Those who delay admission to college and/or pursue study on a part-time basis reduce their odds of attaining a baccalaureate degree (Carroll, 1989).

By this measure, baccalaureate degree attainment for men has declined from 35 percent in 1966 to 33 percent by 1986. For women, baccalaureate degree attainment has almost steadily increased, from 23 percent in 1966 to 32 percent by 1986. These data are charted in Figure 28.

Figure 29 shows that the baccalaureate degree attainment gap for women averaged roughly 13 percent between 1966 and 1973. That is, the rate at which female high school graduates achieved baccalaureate degrees averaged about 13 percent below the rate for males during this period. Then, beginning about 1974, this gap began to gradually and steadily close: by 1984 the gap was about 1 percent, and for 1985 and 1986 the rate for females has averaged about one-half percent below the rate for males.

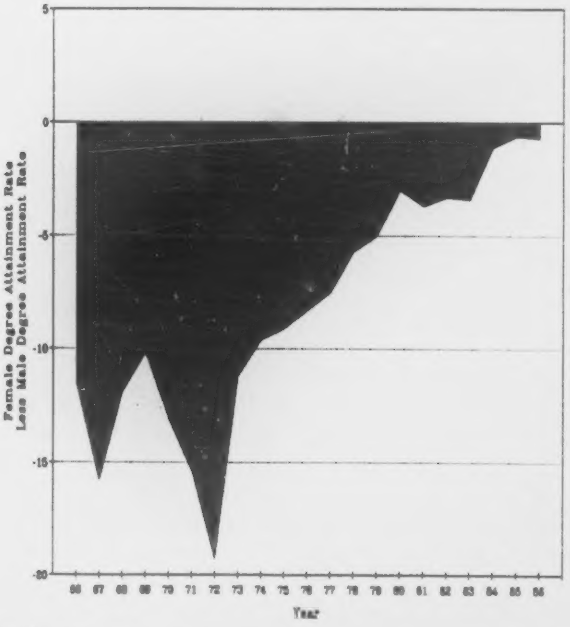
Effectively, the gap has been closed. Its meaning may also be quantified in another way. If women high school graduates had achieved baccalaureate degrees in 1986 at a 13 percent lower rate than men, 207,000 fewer women would have earned baccalaureate degrees in 1986 than actually did; instead of the 502,000 baccalaureate degrees awarded to women in 1986, only about 295,000 would have been awarded. Fully 70 percent more women earned a baccalaureate degree in 1986 than would have if the baccalaureate degree attainment gap had not been closed by improved access and completion for women in higher education.

FIGURE 28
BACCALAUREATE DEGREE ATTAINMENT FOR HIGH SCHOOL GRADUATES BY GENDER
1966 TO 1986



Source: Bureau of Labor Statistics, National Center for Education Statistics

FIGURE 29
BACCALAUREATE DEGREE ATTAINMENT GAP FOR WOMEN
1966 TO 1986



Source: Bureau of Labor Statistics, National Center for Education Statistics

Summary

By these measures of equity of higher educational opportunity, women have now very nearly achieved equity of higher educational opportunity with men. Analyses of the quantitative components of that opportunity indicate that the equity was achieved through improved high school graduation, access to higher education, and completion in higher education once access was achieved. In qualitative dimensions, women have also made significant strides forward. Compared to boys, senior high girls have shown improved mathematics and science test scores on the National Assessment of Educational Progress. Their academic degree aspirations have increased, and women have greatly diversified their fields of baccalaureate study by abandoning traditional female fields and moving smartly into fields long and heavily dominated by males.

In a few areas of higher educational opportunity--some areas of academic preparation for college, enrollment in first choice college, and to some degree college completion--evidence of improved higher educational preparation, participation, and completion for women is lacking. On The ACT Assessment measuring preparation for college, females show no improvement compared to males. In terms of college choice, both males and females have lost substantial ground since the mid 1970s. In fact, females freshmen appear to have lost more enrollment in first choice colleges, particularly during the 1980s, than have males. And college completion for women declined after the mid 1970s.

While this study has avoided causal interpretation of the observed behavioral changes in the population of men and women regarding higher education, the brief incursion into the motives of women offers useful insight. The objectives of American women freshmen have clearly changed over the last two to three decades. They have become increasingly focused on achieving social and economic status in their lives, and they view higher education as the means to achieve that status. Along the way, they have chosen to trade off other goals and values held in greater importance by women in the past.

The achievements of young women after undergraduate college are not within the purview of this paper. However, even the casual observer must note the career gains made by women over the last two decades--career gains that accomplish the goals of social and economic status so clearly reflected in the changed priorities of American college freshmen women surveyed since 1966. Apparently, young women have quite correctly appraised the role of higher education in pursuing their changing goals and values.

III. Blacks

> **"From the mid 1960s to 1989, the college completion rate of blacks compared to whites dropped about 10-percent. The significance of this finding cannot be overstated. Whatever promises were offered to American blacks in terms of access to higher education through the Higher Education Act of 1965 and the 1972 Education Amendments appear to have been taken away in terms of attrition in higher education."**

The Civil Rights movement of the 1950s and 1960s that culminated in the federal laws of 1964 and 1965 was based on the frustration of American blacks. Political leaders such as John Kennedy, Lyndon Johnson, Earl Warren, and others responded to civil unrest with legal path breaking that provided constructive avenues for change and social progress.

Given the historic contribution of blacks to the public policy focus on equity of opportunity in all aspects of American life, we begin the study of historically disadvantaged portions of the American population with a review of the evolution and current status of equity of higher educational opportunity for young American blacks. This analysis of relative equity of opportunity compares black participation in higher education to that of whites over the years for which data are available. The analysis consists of separate examinations of preparation for college, access to college, college choice, persistence in college, field of study, and baccalaureate degree attainment.

The reader of this section should remember this paper seeks to highlight the sharp contrast between the permanent success of women in seeking equity of higher educational opportunity with men, and the transitory and often illusory success of minorities compared to whites over the same period. For minorities, the substantial success achieved between the mid 1960s and the mid 1970s was not permanent, and many significant gains made by 1975 were largely lost during the 1980s. Moreover, in important respects addressed in this study, gains in one area were often offset by losses in other areas resulting in no net gain for blacks.

Preparation for College

The college admissions requirements of a high school diploma and academic potential for success, or at least hope for success based on academic test scores, are examined and compared here for whites and blacks.

Standardized tests. The National Assessment of Educational Progress provides us with one measure of the levels of preparation white and black children have received in different academic subject areas since 1969. Table 4 summarizes these data in five academic subject areas--mathematics, science, reading, writing, and civics--since 1970.

The table contains both bad and good news. On the negative side, blacks on average score lower than whites in every tested area, at every age level, in every year of testing. These differences between blacks and whites are far greater than are the

TABLE 4
National Assessment of Educational Progress
Scores on Mathematics, Science, Reading, Writing, and Civics Tests for White and Black 9, 13, and 17 Year Olds
1970-1988

	Age 9			Age 13			Age 17		
	White	Black	Diff.	White	Black	Diff.	White	Black	Diff.
Mathematics (Scores: 0 to 500)									
1973	224.9	190.0	-34.9	273.7	227.7	-46.0	310.1	269.8	-40.3
1978	224.1	192.4	-31.7	271.6	229.6	-42.0	305.6	268.4	-37.2
1982	224.0	194.9	-29.1	274.4	240.4	-34.0	303.7	271.8	-31.9
1986	226.9	201.6	-25.3	273.6	249.2	-24.4	307.5	278.6	-28.9
73-86:	+2.0	+11.6	+ 9.6	-.1	+21.5	+21.6	-2.6	+8.8	+11.4
Science (Scores: 0 to 500)									
1970	235.9	178.7	-57.2	263.4	214.9	-48.5	311.8	257.8	-54.0
1973	231.1	176.5	-54.6	258.6	205.3	-53.3	303.9	250.4	-53.5
1977	229.6	174.9	-54.7	256.1	208.1	-48.0	297.7	240.3	-57.4
1982	229.1	187.1	-42.0	257.3	217.2	-40.1	293.2	234.8	-58.4
1986	231.9	196.2	-35.7	259.2	221.6	-37.6	297.5	252.8	-44.7
70-86:	-4.0	+17.5	+21.5	- 4.2	+6.7	+10.9	-14.3	-5.0	+ 9.3
Reading (Scores: 0 to 500)									
1971	213.8	170.0	-43.8	260.9	222.4	-38.5	291.4	238.6	-52.8
1975	216.6	181.3	-35.3	262.1	225.7	-36.4	293.0	240.4	-52.6
1980	221.3	189.2	-32.1	264.4	232.4	-32.0	293.1	242.5	-50.6
1984	218.3	185.7	-32.6	262.6	236.0	-26.6	295.6	264.2	-31.4
1988	217.7	188.5	-29.2	261.3	242.9	-18.4	294.7	274.4	-20.3
71-88:	+3.9	+18.5	+14.6	+.4	+20.5	+20.1	+3.3	+35.8	+32.5
Writing/Informative (Scores: 0 to 6)									
1979	3.0	2.0	-1.0	3.2	2.4	-.8	3.5	2.8	-.7
1984	3.0	2.4	-.6	3.3	2.5	-.8	3.7	2.9	-.8
79-84:	0	+.4	+.4	+.1	+.1	.0	+.2	+.1	-.1
Writing/Persuasive (Scores: 0 to 6)									
1979	3.2	2.0	-1.0	3.2	2.4	-.8	3.5	2.8	-.7
1984	3.0	2.3	-.7	3.1	2.4	-.7	3.7	3.0	-.7
79-84:	-.2	-.3	-.1	+.2	+.1	-.1	+.4	+.3	-.1
Writing Imaginative (Scores: 0 to 6)									
1974	2.9	1.9	-1.0	3.3	2.3	-1.0	3.8	3.1	-.7
1979	2.9	2.2	-.7	3.0	2.4	-.6	3.6	2.8	-.8
1984	3.3	2.4	-.9	3.0	2.7	-.3	3.7	3.1	-.6
74-84:	+.4	+.5	+.1	-.3	+.4	+.7	-.1	0	-.1
Civics (Scores: 0 to 100)									
1976				50.7	42.1	-8.6	63.4	52.5	-10.9
1982				50.7	42.0	-8.7	63.6	51.6	-12.0
1988				51.2	-5.7	-5.5	61.4	53.1	-8.3
76-88:				+.5	+3.6	+3.1	-2.0	+.6	+2.6

Source: National Assessment of Educational Progress reports.

differences between females and males. On science and reading, the test score differences between blacks and whites, rather than decreasing with increased years of schooling, appear to increase, particularly between ages 13 and 17.

The good news is this: the difference between NAEP test scores of blacks and whites is steadily narrowing, especially in mathematics, science, and reading. These test score gaps are closing not just because whites are doing less well recently compared to earlier years of NAEP, but primarily because average scores for blacks have increased substantially, especially in the 1980s. The improvement in black scores on the NAEP tests far outstrips any gains by whites. By age 17, the gains for blacks compared to whites are strongest in reading and mathematics, weakest in writing.

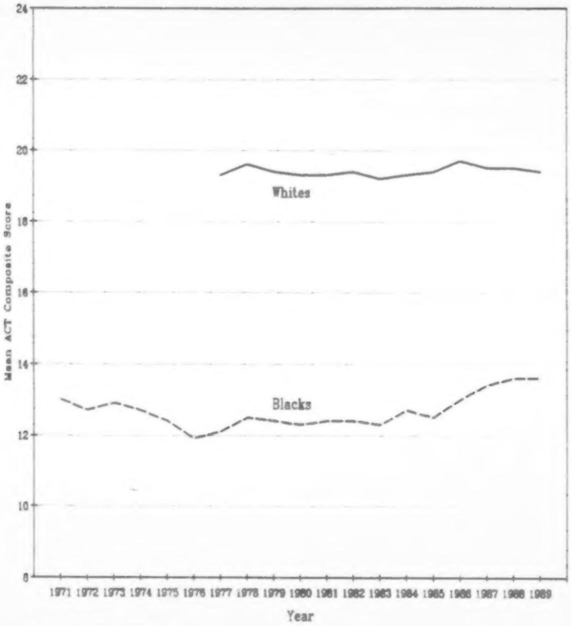
The NAEP is not alone in finding that black test scores compared to scores of whites appear to be improving. Results from the ACT Assessment for college-bound high school seniors are similar to those from NAEP. The ACT Assessment is taken by college-bound high school seniors. Blacks score substantially lower than do whites. But the gap has narrowed, particularly since 1985, as shown in Figures 30 and 31. In 1977 the difference in ACT scores between whites and blacks was 7.2 score points. By 1989 it was 5.8 score points.

More generally, the Congressional Budget Office has studied Trends in Educational Achievement (1986), using nine nationally normed tests. The CBO study examined the issue of declining standardized test scores, and included an examination of minority test scores. It concluded that the observed gains by black students are real, have been progressing for a substantial period of time, and are reflected in regional tests as well as national tests. In the CBO summary, the study noted:

> **"[An] ... important issue in the debate over educational achievement is the performance of minority students on standardized tests. Over the past 10 to 15 years—a period that encompassed both declining and improving test scores—the average scores of some minority students rose compared with those of nonminority students. The relative gains of black students appear on every test for which separate trend data for black students are available. Although the gap in average scores between black and nonminority students remain large, it has narrowed appreciably ... Some test results suggest that the scores of black students showed lesser decreases than did those of nonminority students during the final years of the achievement decline, stopped declining earlier, and showed greater improvement during the first years of the overall upturn in scores."** (Pp. xviii-xix)

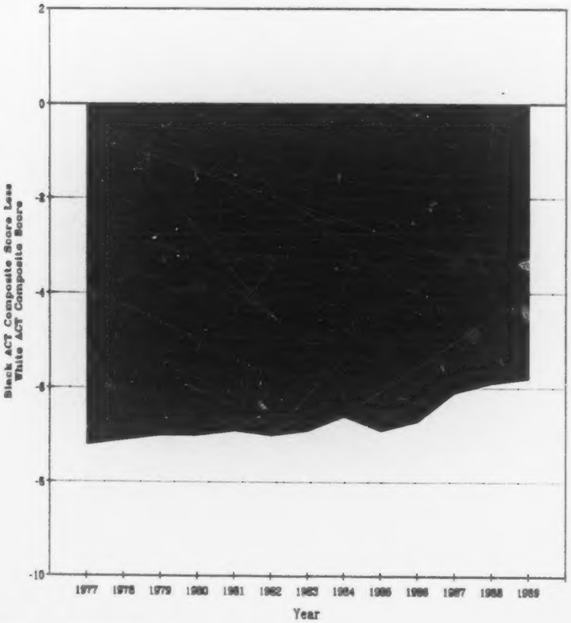
College preparatory curriculum. In 1990, 43 percent of the black high school seniors that took the ACT Assessment for college admission had completed a college preparatory curriculum in high school. This curriculum includes four years of English, and three years each of mathematics, natural science, and social studies. Typically, those that complete this curriculum score 2 to 3 points higher on the ACT Assessment on a 36 point scale than those who do not. This difference improves one's chances for academic success in college.

FIGURE 30
ACT ASSESSMENT MEAN COMPOSITE SCORES FOR WHITES AND BLACKS
1971 TO 1989



Source: The American College Testing Program

FIGURE 31
ACT ASSESSMENT MEAN COMPOSITE SCORE GAP FOR BLACKS COMPARED TO WHITES
1977 TO 1989



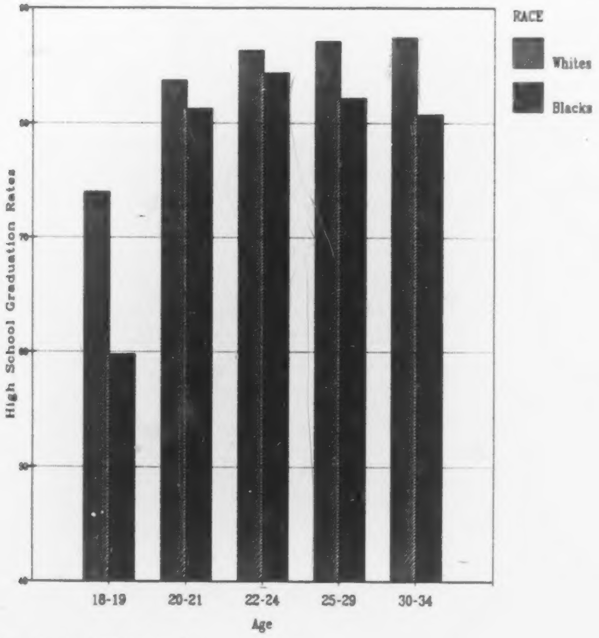
Source: The American College Testing Program

If 43 percent have taken the college prep courses by the time they leave high school, then 57 percent did not. By comparison 49 percent of the whites who took the ACT Assessment and graduated from high school in 1990 completed the college prep curriculum and 51 percent did not.

Between 1987 and 1990, the proportion of blacks taking the ACT Assessment that completed the college prep courses by the time they left high school increased from 31 to 43 percent. The proportions for whites were 39 and 49 percent. Thus, blacks made greater progress in college preparation through high school courses than did whites between 1987 and 1990. The greatest gains were made among blacks from families with incomes between $30,000 and $50,000 per year. However, the majority of both blacks and whites are not completely prepared through high school coursework to succeed in college.

High school graduation. The second measure of preparation for college is the proportion of the population having graduated from high school. Blacks are less likely than whites to have graduated from high school at each age interval above age 20, as shown in Figure 32. Blacks also take somewhat longer to complete high school: at ages 18 and 19, when 74 percent of whites have graduated from high school, about 60 percent of blacks have graduated; by age 20 to 21, however, blacks are nearly as likely as whites to have graduated from high school.

FIGURE 32
HIGH SCHOOL GRADUATION RATES
BY AGE FOR WHITES AND BLACKS
1989



Source: Current Population Survey, Series P-20.

In this case, we examine the proportion of the 20 to 21 year old population that has graduated from high school for whites and blacks. Figure 33 shows the proportion of the white and black civilian, noninstitutional population that has graduated from high school over the last 23 years. Figure 34 shows the high school graduation rate gap for 20 and 21 year old blacks compared to whites for this same period.

The results are clear and striking. Two decades ago, the proportion of blacks that had graduated from high school by age 20 to 21 was well below that of whites, but the gap has closed steadily since then. In 1967 the difference between the black and white high school graduation rate was about 20 percent. In 1989 the high school graduation rate gap for blacks was about 2 percent. In 1967 about 60 percent of the blacks age 20 to 21 were high school graduates. By 1989 the proportion had increased to about 82 percent.

When both qualitative and quantitative measures of preparation for college are used to compare blacks with whites, blacks are clearly less well prepared than whites to undertake and succeed in college. These differences are not trivial. However, on all measures--test scores, college prep coursework, and high school graduation--blacks have made very substantial progress over the last two decades, compared both to whites and to the levels of preparation that existed for blacks twenty and even ten years ago. The progress is sometimes slow, but substantial and very important. Whites, in contrast, have made progress in neither high school graduation rates nor academic test scores.

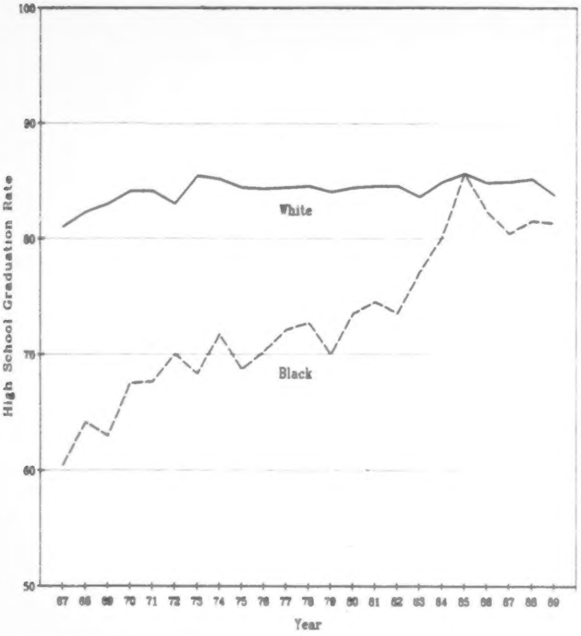
Access to College

For blacks, high school graduation may take longer than for whites, entrance to college may be further delayed, and ultimately degree attainment may therefore take more years and be more costly than for whites. This longer term involvement in higher education is difficult to capture in the data that follow, a limitation that should be kept in mind when reviewing the following information about the collegiate experiences of blacks.

Recent high school graduates. After high school comes college. For those most likely to complete college, the transition from high school to college occurs quickly before alternative commitments (job, marriage, etc.) intervene. We examine here the experience of whites and blacks who have graduated from high school during the preceding twelve months.

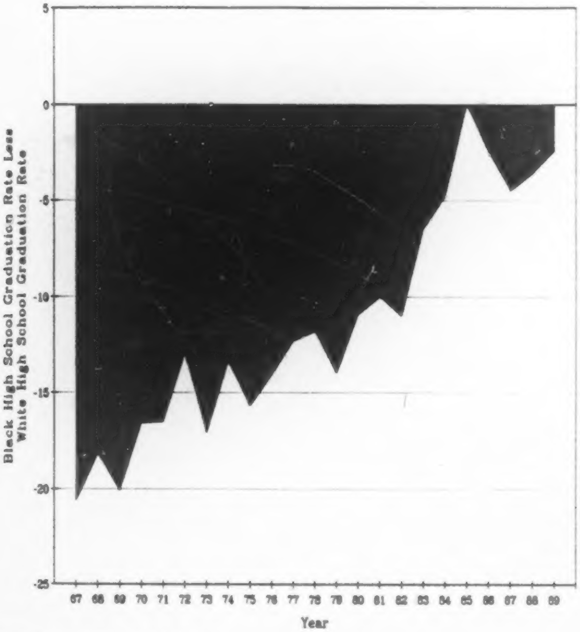
The Bureau of Labor Statistics has reported on the higher educational enrollment status of the population by race since 1960, using data collected by the Census Bureau in the Current Population Survey. Data on nonwhites has been reported since 1960, and on blacks since 1976. (Blacks constituted 92 percent of the nonwhite population of high school graduates in 1976.) Figure 35 shows college enrollment rates for white and nonwhite recent high school graduates since 1960, and for blacks since 1976. The difference between the white and nonwhite college enrollment rates is shown in Figure 36. (To obscure statistical noise present especially in the minority data, and to emphasize underlying trends that are the concern of this study, the nonwhite data shown in Figure 35 are a plot of a moving three year average. The plot in Figure 36 is based on these data.)

FIGURE 33
HIGH SCHOOL GRADUATION RATES FOR WHITES AND BLACKS 20 TO 21 YEARS OLD
1967 TO 1989



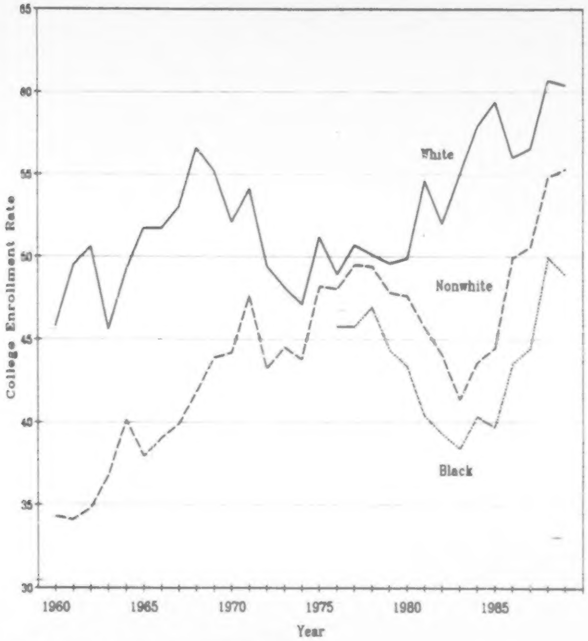
Source: Current Population Survey, Series P-20.

FIGURE 34
HIGH SCHOOL GRADUATION RATE GAP FOR BLACKS AGE 20 TO 21
1967 TO 1989



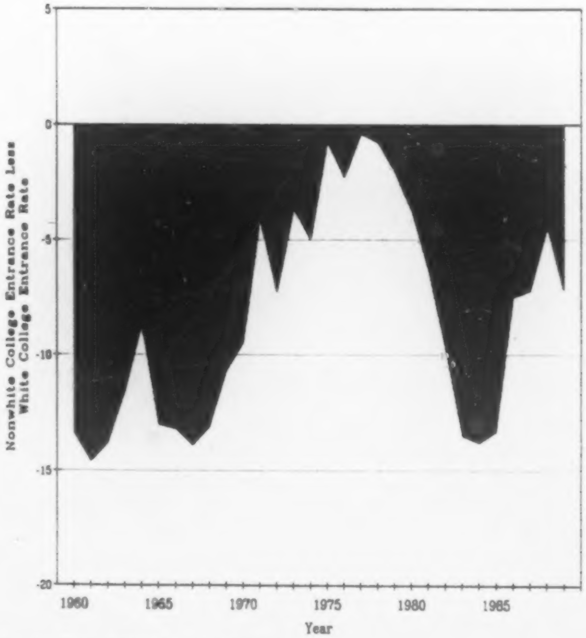
Source: Current Population Survey, Series P-20.

FIGURE 35
COLLEGE ENROLLMENT RATES FOR WHITE AND NONWHITE RECENT HIGH SCHOOL GRADUATES
1960 TO 1989



Source: BLS. Non-white data is a plot of a moving three year average.

FIGURE 36
COLLEGE ACCESS GAP FOR NONWHITE RECENT HIGH SCHOOL GRADUATES
1960 TO 1988



Source: Bureau of Labor Statistics. Plot is moving 3 year average.

The results show wide fluctuations in the rates at which whites and nonwhites have pursued higher education in the year following high school graduation. The proportion of recent high school graduates going on to college in 1988 was at an all-time high for whites, nonwhites, and blacks. But the white college enrollment rate was about 61 percent, compared to 54 percent for nonwhites. When the nonwhite college enrollment rate is further disaggregated into blacks and nonblack nonwhites, the rate for blacks was 45 percent while the rate for nonwhite nonblacks was 72 percent.

This latter group is largely Asian, a relatively recent phenomenon in the demographics of the relevant populations. In 1976, nonwhite nonblacks constituted just 0.9 percent of the annual high school graduate cohort. By 1988 this proportion had quadrupled to 3.9 percent of the total. Since 1978, the college entrance rate for this group of recent high school graduates has fluctuated between 51 and 77 percent--well above the rate for whites during this period.

More interesting than the differences in the rates at which the several racial groups enroll in college is the change over time in the differences between these rates. This is the college access gap between nonwhites and whites and it is the measure of equity of higher educational access used in this paper.

Figure 36 shows the difference between whites and nonwhites from 1960 to 1989. Distinct eras in college access equity are apparent. During the first era, 1960 to 1969, the college entrance rate gap between whites and nonwhites (primarily blacks) averaged about 13 percent. Between 1969 and 1976 this gap quickly closed. From 1976 to 1979, nonwhites enrolled in college at nearly identical rates with whites. During the fourth era, between 1980 and 1983, the college access gap reopened. Between 1983 and 1986 the gap between white and nonwhite college enrollment rates averaged nearly 14 percent; for blacks, the gap with whites averaged nearly 18 percent.

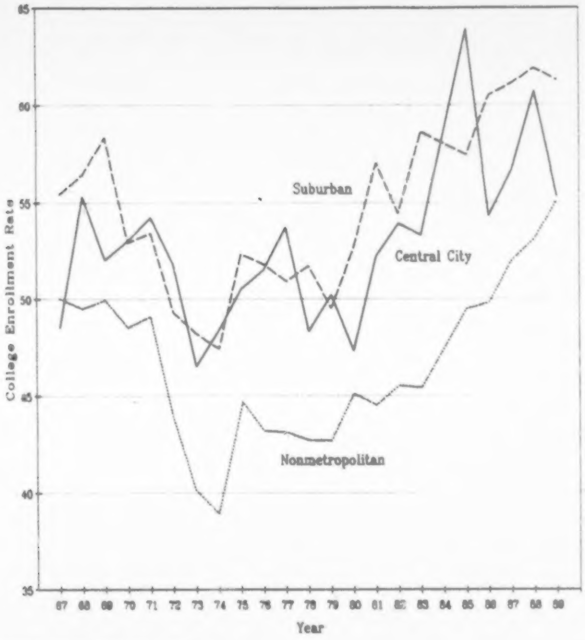
Between 1986 and 1989 the college entrance rate gap between white and nonwhite recent high school graduates appears to have closed somewhat. Because of statistical noise, it is too soon to judge the magnitude of this closing. However, it is probably safe to say that the gap in access has not yet closed to the point reached in the 1976 to 1979 period.

At this point we mention an important caution: access is only one portion of the total picture of higher educational opportunity for blacks. What may be viewed as success in access will be diminished by a closer examination of higher educational opportunity for blacks when we look at choice and persistence.

Place of residence. The college access rates of young white and black high school graduates can be analyzed further by place of residence: central city, suburban, and nonmetropolitan. Figures 37 and 38 plot college enrollment rates for white and black 18 and 19 year old high school graduates for the last two decades. Both figures show results that are similar to Figure 35: white college enrollment rates generally declined between 1967 and 1973 and have increased since then, regardless of place of residence. Black college enrollment rates generally increased between 1967 and 1980, declined through 1984, and then increased through 1987.

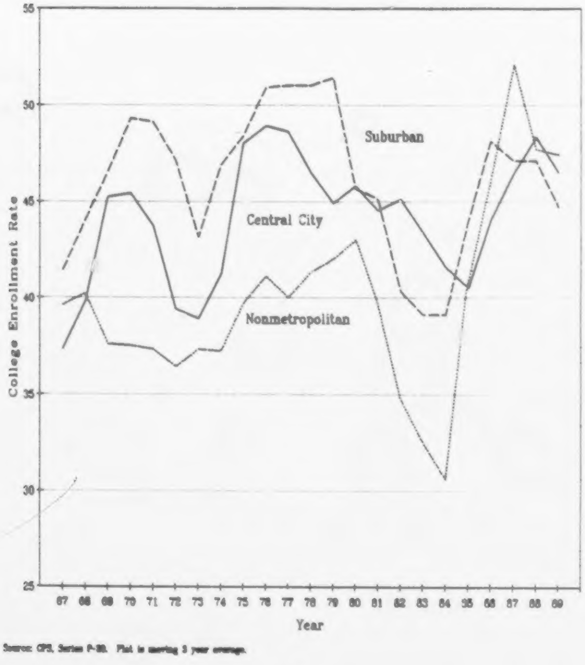
The college access gap for 18 to 19 year old black high school graduates compared to whites over this same period of time is shown in Figures 39, 40, and 41. In each case, a roughly similar pattern holds--a narrowing of the college access gap between 1967 and about 1975, a relatively small difference between black and white rates between about

FIGURE 37
COLLEGE ENROLLMENT RATES FOR WHITE HIGH SCHOOL GRADUATES AGE 18 AND 19 YEARS OLD BY RESIDENCE 1967 TO 1989



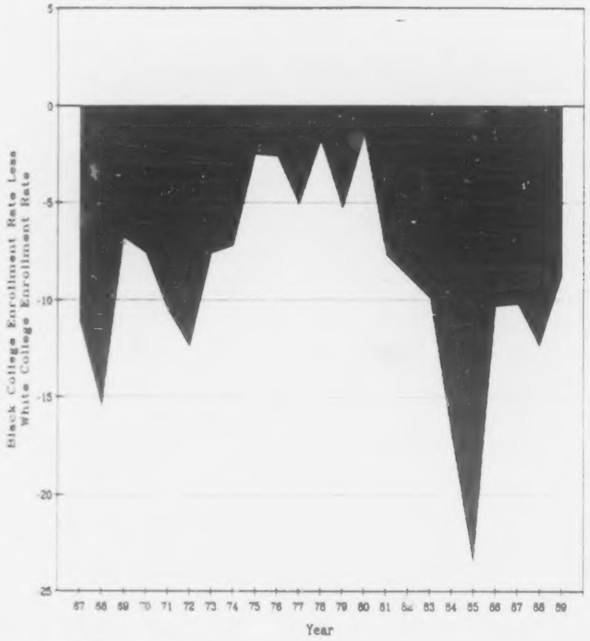
Source: Current Population Survey, Series P-20.

FIGURE 38
COLLEGE ENROLLMENT RATES FOR BLACK HIGH SCHOOL GRADUATES AGE 18 AND 19 YEARS OLD BY RESIDENCE 1967 TO 1989



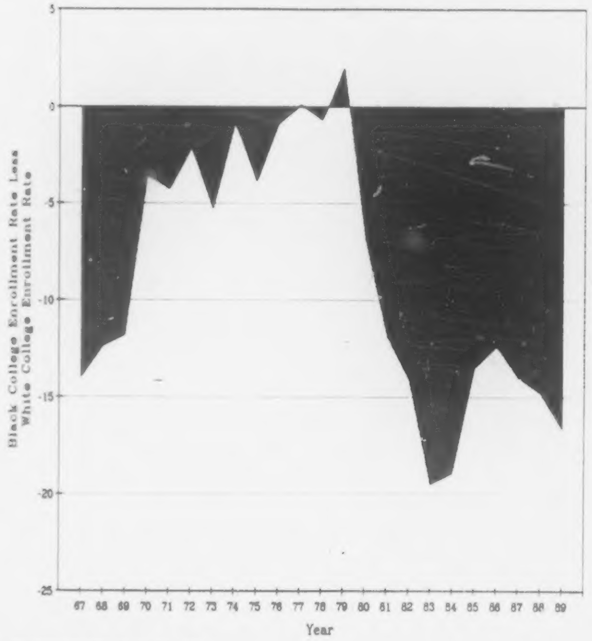
Source: CPS, Series P-20. Plot is moving 3 year average.

FIGURE 39
COLLEGE ACCESS GAP FOR BLACK HIGH SCHOOL GRADUATES
AGE 18 AND 19 YEARS OLD FROM CENTRAL CITIES
1967 TO 1989



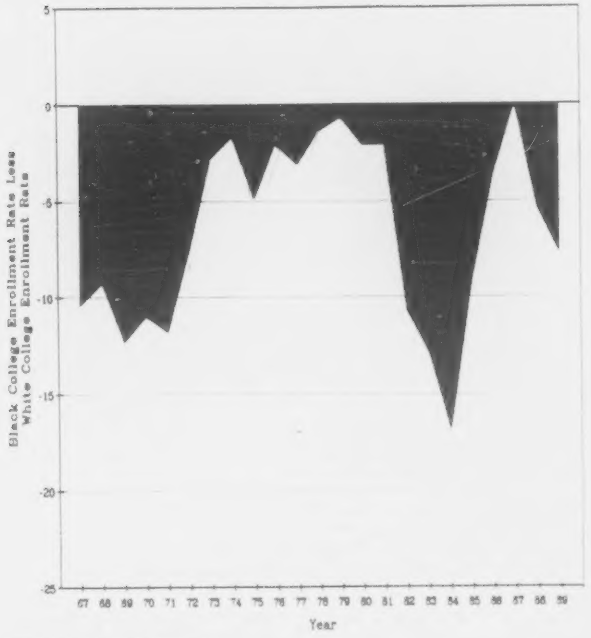
Source: Current Population Survey, Series P-20.

FIGURE 40
COLLEGE ACCESS GAP BLACK HIGH SCHOOL GRADUATES
AGE 18 AND 19 YEARS OLD FROM SUBURBAN AREAS
1967 TO 1989



Source: Current Population Survey, Series P-20.

FIGURE 41
COLLEGE ACCESS GAP FOR BLACK HIGH SCHOOL GRADUATES
AGE 18 AND 19 YEARS OLD FROM NONMETROPOLITAN AREAS
1967 TO 1989



Source: Current Population Survey, Series P-20.

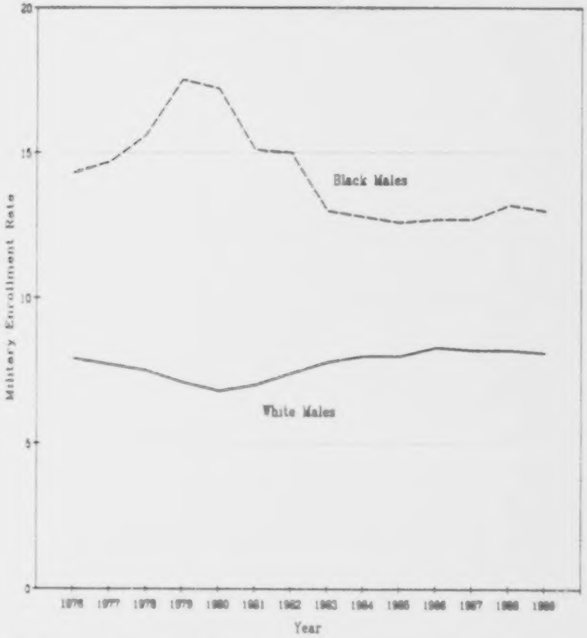
1975 and 1980, followed by a sudden and substantial reopening of the gap during the first half of the 1980s. After 1984 the difference between the black and white college enrollment rate appears to have narrowed, especially for nonmetropolitan blacks. For central city, and especially suburban black high school graduates, the college access gap appears to have recovered little, if at all.

Military service. For American minorities, an important alternative to college enrollment has been military enrollment. In the following analysis, we will limit our consideration to white and black men because military service is a more important alternative for men than it is for women. The analysis is further limited to high school graduates, and we acknowledge the special assistance provided for this study by the Defense Manpower Data Center.

Historically, the proportion of black male high school graduates enrolled in the military has been about twice that of white males. Since 1980, however, this pattern has changed as the proportion of black male high school graduates entering the military has dropped sharply while the white rate has increased slightly. As shown in Figure 42, the black male military enrollment rate dropped from 17.5 percent in 1979 to 12.6 percent by 1985. For white males, the military enrollment rate dropped from 7.9 percent in 1976 to 6.8 percent by 1980, and has since increased to 8.3 percent by 1986.

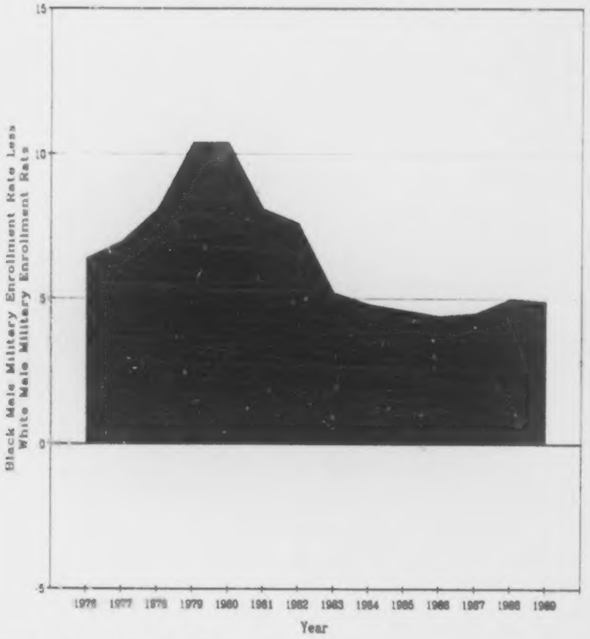
As a result of the declining black male military enrollment rate and the increasing rate for white males, the advantage for blacks has narrowed between 1980 and 1986. As shown in Figure 43, black and white male high school graduates age 20 and 21 were in 1986 enrolled in the military at more nearly equal rates than at any time since 1976, when this data series begins.

FIGURE 42
MILITARY ENROLLMENT RATES FOR WHITE AND BLACK MALE
HIGH SCHOOL GRADUATES AGE 20 AND 21
1976 TO 1989



Sources: Census Bureau and Defense Manpower Data Center.

FIGURE 43
MILITARY ENROLLMENT RATE GAP FOR BLACK MALE
HIGH SCHOOL GRADUATES AGE 20 AND 21
1976 TO 1989



Sources: Census Bureau and Defense Manpower Data Center.

Proprietary schools. So far this study has focused on black participation in colleges and universities--traditional higher education--and the military. However, postsecondary education includes a broader set of institutions. And because federal student financial aid is generally available to students enrolled in this set of noncollegiate institutions, we will examine the limited available enrollment data to assess the participation of blacks in noncollegiate postsecondary institutions. These institutions, which include trade, business, cosmetology, and other career-oriented schools, are proprietary in ownership and operated for profit.

According to the National Center for Education Statistics (1988), Blacks were about twice as likely as whites to be enrolled in a proprietary school in 1986. About 4.5 percent of blacks enrolled in postsecondary education were enrolled in proprietary schools, compared to 2.4 percent for whites. These data are shown in Figure 44.

Unfortunately, the 1986 data are the only published national data on postsecondary school enrollments by race. Therefore, these data offer no information on the evolution of black enrollments in proprietary education. Other data--such as Pell Grant recipient data--suggest enormous growth in enrollments in proprietary schools, from about 10 percent of all Pell Grants awarded in 1980 to more than 25 percent in 1989. But Pell Grant Program data include no information on the race of applicants and recipients. We have no data with which to consider the participation of blacks in proprietary education over time. While it is evident that blacks are disproportionately enrolled in proprietary education compared to whites, the proportions for both whites and blacks are quite small compared to collegiate education.

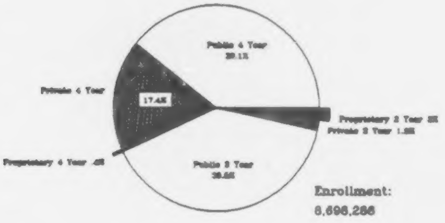
Reasons for attending college. The annual national survey of American college freshmen (CIRP) provides data on the reasons given by college freshmen for attending college and their goals in life. Although these data reflect the views of students already enrolled in college, comparisons of the views of whites and blacks offer insights into the goals, objectives, aspirations, and constraints faced by students who choose higher education as the means to their private ends.

Blacks and whites give similar reasons for attending college, reasons closely allied with career goals and general educational goals. Figure 45 shows the proportion of white and black college freshmen in 1986 that cited the four main reasons for attending college: to get a better job, to get a general education, to make more money, and to learn more about things. Although blacks were more likely than whites to cite each reason as very important for attending college, in fact the priorities were similar for both groups.

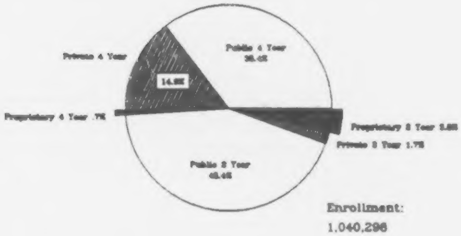
Since 1976, the reasons white and black college freshmen have given for attending college have changed in parallel fashion. For both racial groups, going to college to get a better job and to earn more money have become more important between 1976 and 1986. Going to college to get a general education and to learn more about things have declined somewhat in importance for both groups. Generally, blacks more often cite "to earn more money" as a very important reason for attending college than do whites.

Objectives in life. In most respects, white and black college freshmen have similar objectives for their lives. What is important to one group is similarly important to the other group. Seventy percent or more of both white and black college freshmen cite as very important: "to be very well off financially," and "to become an authority in my field." This is shown in Figure 46. These objectives may reflect what college freshmen consider the economic and social returns on a college education to be.

FIGURE 44
DISTRIBUTION OF UNDERGRADUATE ENROLLMENTS BY RACE AND TYPE AND CONTROL OF INSTITUTION
1986



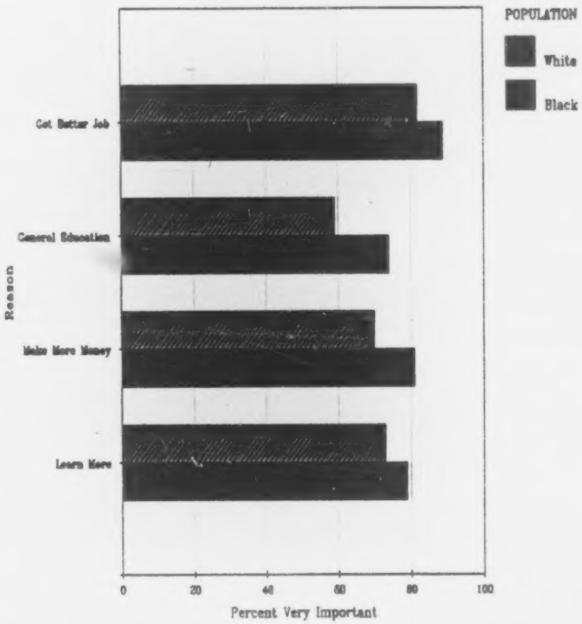
White



Black

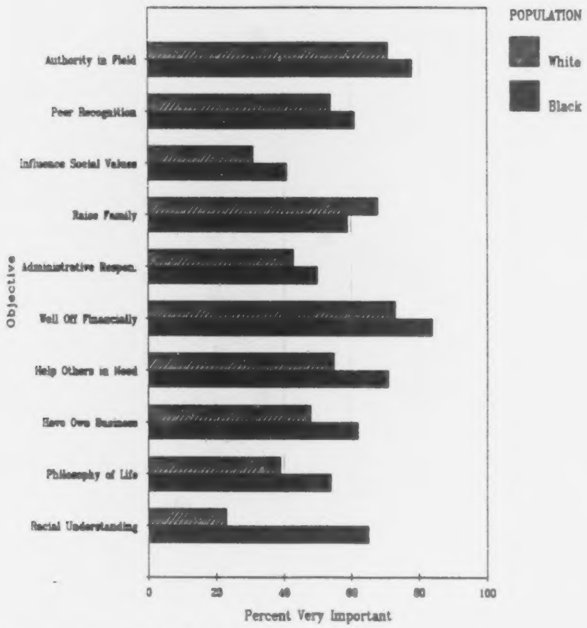
Source: National Center for Education Statistics.

FIGURE 45
REASONS FOR ATTENDING COLLEGE FOR WHITE AND BLACK FRESHMEN
1986



Source: National College Freshman Norms, CIRP, Annual.

FIGURE 48
OBJECTIVES IN LIFE
FOR WHITE AND BLACK FRESHMEN
1986



Source: National College Freshmen Norms, CIRP, Annual.

However, a few notable exceptions to the patterns of similarity are worth reviewing in detail. First, about two-thirds of black college freshmen said in 1986 that "promoting racial understanding" was a very important objective for their lives, compared to 23 percent of white college freshmen. From 1977 to 1986, the proportion of blacks citing this objective as very important remained about 65 percent. During the same period, the proportion of whites citing this objective as very important to their lives steadily declined, from 32 percent in 1977 to 23 percent by 1986.

Second, only one objective is more frequently cited by whites than blacks, "raising a family." About 60 percent of black college freshmen cite this as very important to their lives, and this percentage has remained stable for black college freshmen classes from 1975 through 1986. In contrast to this, the percentage of white college freshmen citing "raising a family" as very important to their lives has increased from 55 percent in 1975 to 68 percent in 1986.

On other objectives considered to be very important in life by white and black college freshmen, interesting differences occur as well. Blacks seem to value entering their own business more highly than do whites, to have administrative responsibility over others, and to want to help other people. And, while the proportion of white freshmen citing "to develop a philosophy of life" as important to their lives has dropped from 66 percent in 1975 to 39 percent in 1986, the proportion of black freshmen citing this objective has declined from 69 percent to 54 percent--about half the white decline.

College Choice

College choice, as depicted in Figure 21, deteriorated substantially for both women and men between 1975 and 1988, with most of the decline occurring after 1980. However, the probability of enrollment in first choice college is similar for men and women, and has declined since 1975 at about the same rate for both. The same cannot be said for blacks, however. As black preparation for college has improved--both in test scores and high school graduation rates--college choice has not.

In this section we will analyze college choice for blacks and whites in three ways: applications/admissions, enrollment in first choice college, and background characteristics. Data used will be based on the National College Freshmen Norms survey, although use of published data from the survey limits our analysis in important ways.

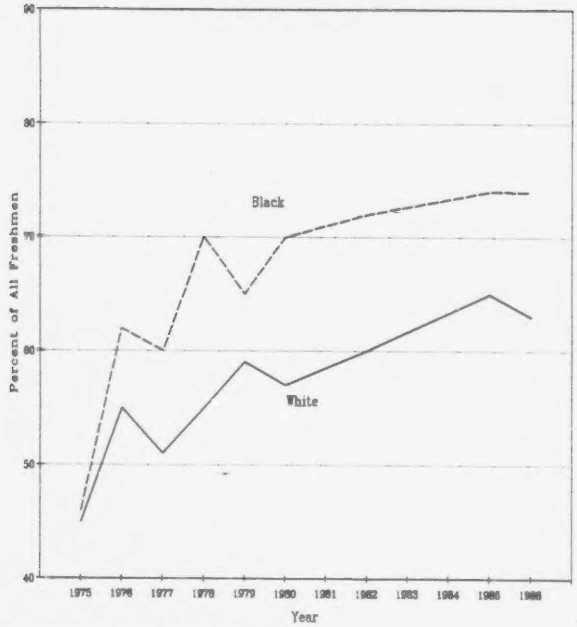
Multiple college choices. Only when a student has applied to more than one college for admission and been accepted by more than one college does the student have a choice among colleges. Our analysis of the data files of the National College Freshmen Norms survey for the years 1975 through 1986 shows consistent and important differences in patterns leading to multiple college choices for whites and blacks. Generally, black college freshmen have applied to more colleges for admission than have whites, but whites have been accepted at a higher proportion of the colleges they applied to than have blacks.

Multiple college application rates for whites and blacks are shown in Figure 47. Between 1975 and 1986, the proportion of enrolled college freshmen reporting that they had applied for admission to more than one college increased from 46 percent to 74 percent for blacks, and from 45 percent to 63 percent for whites. This increase has been fostered at least partly by high school guidance staff who have encouraged high school students to explore various higher educational alternatives. Figure 48 plots the difference between the white and black rates, and shows that since about 1977 roughly 10 percent more black freshmen report having made multiple college applications than have whites.

Multiple college admissions, for those who have applied to more than one college for admission, are shown in Figure 49. By 1986, nearly 90 percent of those who reported having made multiple college applications were able to report that they had been accepted by more than one college for admission. This percentage is above rates reported by both white and black freshmen in the mid 1970s, but, as shown in Figure 50, there has been greater growth in black college freshmen acceptance rates than for whites. All of this growth occurred between 1975 and 1981.

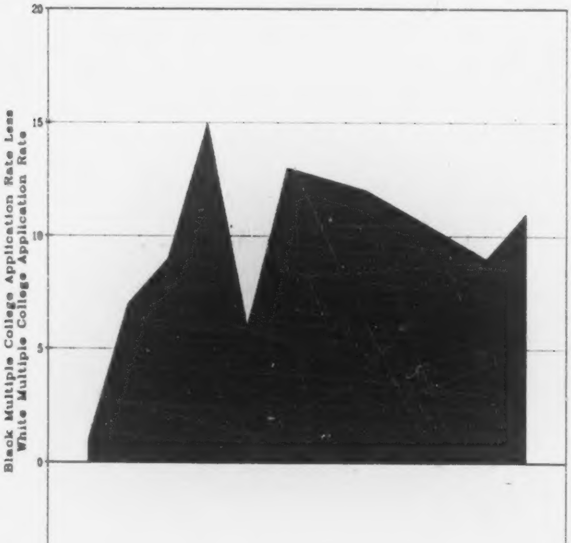
Choice among colleges results for those who have applied and been accepted at more than one college for admission. Figure 51 shows the proportion of college freshmen that actually faced a choice of more than one college to attend. This proportion has increased sharply--particularly between 1975 and 1981--for both whites and blacks. Generally, black college freshmen have had more colleges to select from than have whites, not because they were accepted by more colleges to which they had applied, but because they applied to more colleges for admission. Since 1981 these rates have not increased for either whites or blacks.

FIGURE 47
MULTIPLE COLLEGE APPLICATIONS FOR WHITE AND BLACK COLLEGE FRESHMEN
1975 TO 1986



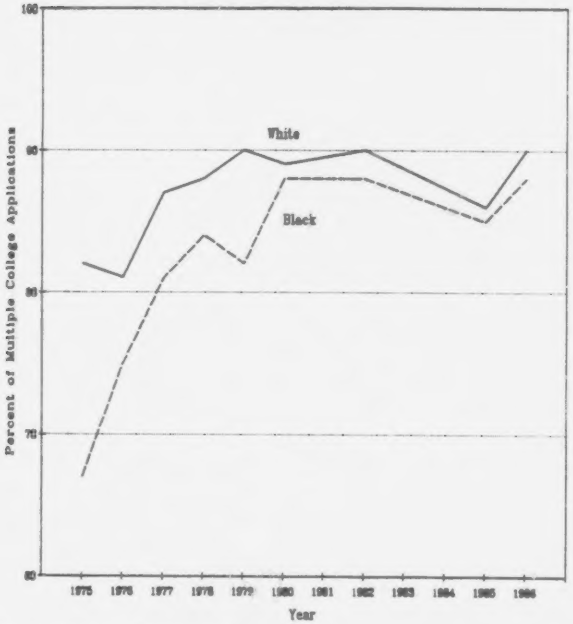
Source: National College Freshmen Norms, CIRP, Annual.

FIGURE 48
MULTIPLE COLLEGE APPLICATIONS GAP FOR BLACK COLLEGE FRESHMEN
1975 TO 1986



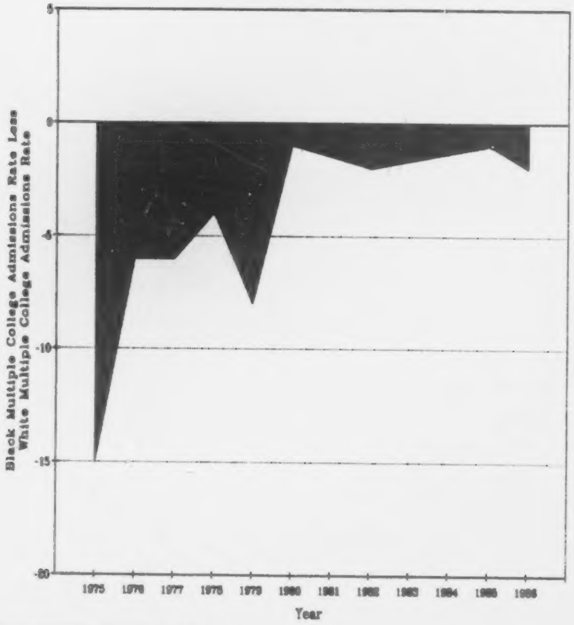
Source: National College Freshmen Norms, CIRP, Annual.

FIGURE 49
MULTIPLE COLLEGE ADMISSIONS FOR WHITE AND BLACK COLLEGE FRESHMEN
1975 TO 1986



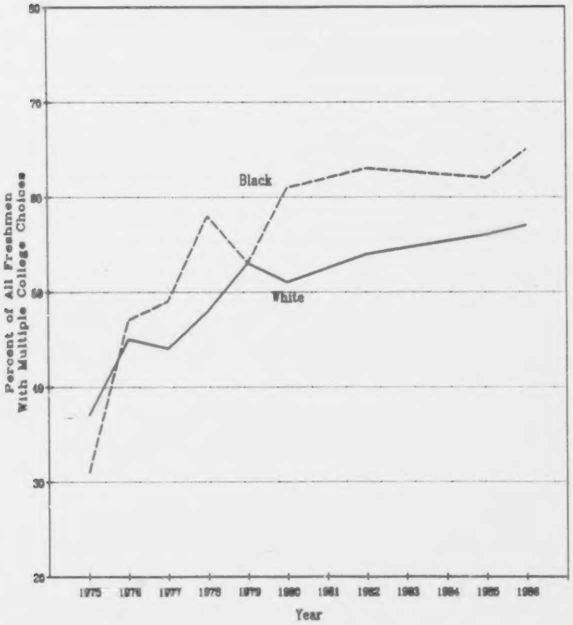
Source: National College Freshmen Norms, CIRP, Annual.

FIGURE 50
MULTIPLE COLLEGE ADMISSIONS GAP FOR BLACK COLLEGE FRESHMEN
1975 TO 1986



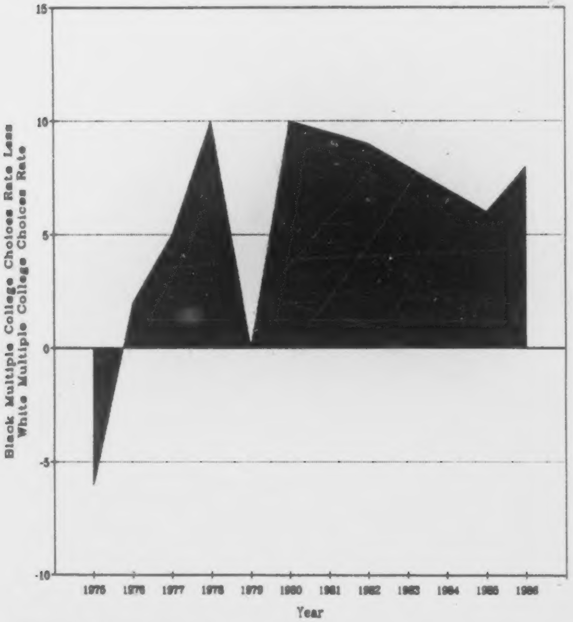
Source: National College Freshmen Norms, CIRP, Annual.

FIGURE 51
MULTIPLE COLLEGE CHOICES FOR WHITE AND BLACK COLLEGE FRESHMEN
1975 TO 1986



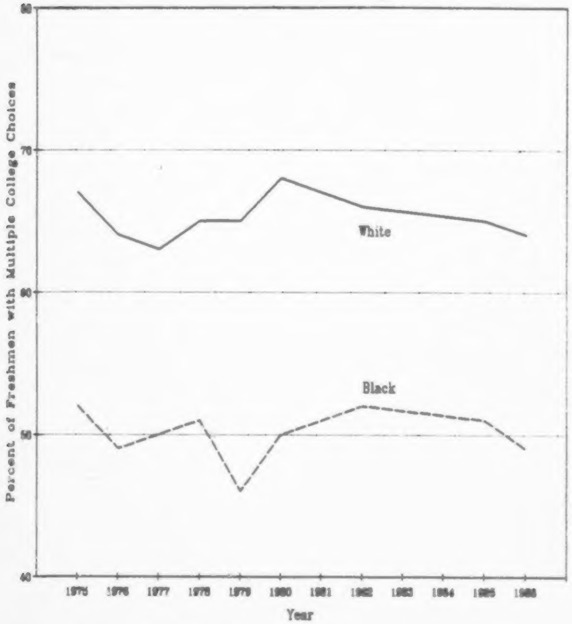
Source: National College Freshmen Norms, CIRP, Annual.

FIGURE 52
MULTIPLE COLLEGE CHOICES GAP FOR BLACK COLLEGE FRESHMEN
1975 TO 1986



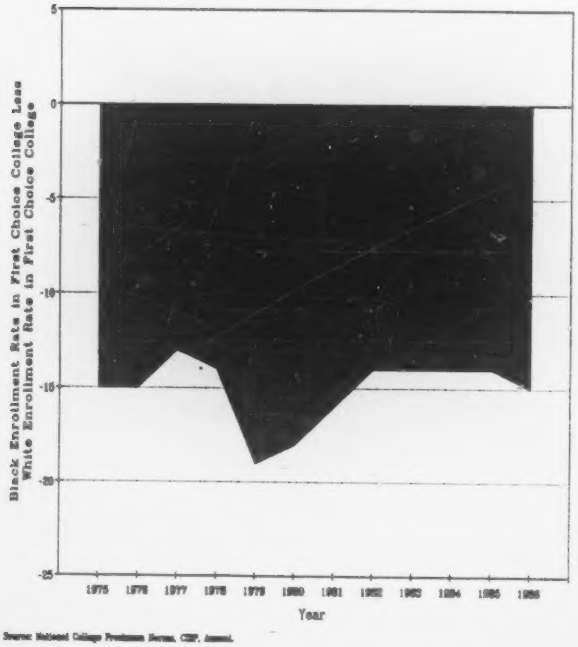
Source: National College Freshmen Norms, CIRP, Annual.

FIGURE 53
ENROLLMENT IN FIRST CHOICE COLLEGE FOR WHITE AND BLACK COLLEGE FRESHMEN WITH MULTIPLE CHOICES
1975 TO 1986



Source: National College Freshmen Norms, CIRP, Annual.

FIGURE 54
ENROLLMENT IN FIRST CHOICE COLLEGE GAP FOR BLACK COLLEGE FRESHMEN WITH MULTIPLE CHOICES
1975 TO 1986



Source: National College Freshmen Norms, CIRP, Annual.

First choice enrollment. Figure 53 charts enrollment in first choice college of white and black college freshmen who had multiple college choices. The plots for both whites and blacks show small fluctuations-- generally upward from 1975 to 1981, and downward through 1986. Most striking are the positions of the plotted data for whites and blacks. Year after year, about 65 percent of white freshmen with multiple college choices reported enrollment in their first choice college, compared to about 50 percent for blacks. Clearly, the efforts to expand college choice that have led both whites and blacks to apply to more colleges for admission--and in turn have obligated colleges to admit a larger proportion of their applicant population--have contributed nothing toward increasing the probability of enrolling in one's first choice college.

We have extended our analysis of the problems of college choice for blacks in another dimension, controlling for high school grades and family income. The National College Freshmen Norms files provide a rich source of data with which to analyze the interactive effects of these two variables and to compare their respective effects on college choice between white and black college freshmen. We have done so for 1980 and 1986.

The following illustrates where the college choice gap occurs for blacks compared to whites. In particular, we control for high school grades and parental income and limit our analysis to freshmen who had applied to more than one college for admission and were accepted by more than one college (the two elements that define real college choices). Table 5 is in three parts: the first part shows the rate at which white college freshmen-stratified by high school grades and parental income--enrolled in their first choice college in 1986; the second part shows the first choice enrollment rate for blacks; and the third part of the table shows the difference--the college access gap--between whites and blacks.

The results are clear. In every cell but one, blacks are less likely than whites to enroll in their first choice college. In only one cell were blacks as likely as whites to enroll in their first choice college--high school grades of A and parental income of more than $75,000 per year. In every cell of lower high school grades and/or lower parental income, blacks were less likely than whites to enroll in their first choice college.

We replicated this study on 1980 data and similar results were obtained. When blacks reported high school grades of A and parental incomes over $40,000 per year, they were more likely than whites to enroll in their first choice college. In every cell of lesser grades and/or lower parental income they were less likely to enroll in their first choice college when they faced multiple college choices.

Reasons for enrolling at college of enrollment. The difficulties of college choice encountered by blacks can be further analyzed by examining their reasons for enrolling at the college where they were currently registered. Here again, our analysis is limited to first-time, full-time freshmen who applied to more than one college for admission and were accepted by more than one college. We will compare here the reasons given by black freshmen who were enrolled at their first choice college with the reasons given by blacks who were enrolled at a second or lower choice college.

Blacks who enroll in their first choice college are far more likely to cite the appeal of the academic reputation of the institution than are blacks who enroll in their second or lower choice institution. In 1986, 72 percent of those enrolled in their first choice

TABLE 5
First Choice College Enrollment for Blacks Compared to Whites
1986

Parental Income	High School Grades			Total
	C	B	A	
A. First Choice College Enrollment Rates for Whites				
Less than $10,000	60%	63%	81%	68%
$10,000-$19,999	72	62	73	67
$20,000-$29,999	59	59	69	62
$30,000-$39,999	59	61	74	64
$40,000-$49,999	58	67	65	65
$50,000-$74,999	52	66	66	64
$75,000 and over	47	61	63	59
Total	57	63	68	63
B. First Choice College Enrollment Rates for Blacks				
Less than $10,000	49%	53%	52%	52%
$10,000-$19,999	46	49	65	49
$20,000-$29,999	43	44	53	45
$30,000-$39,999	50	48	58	50
$40,000-$49,999	32	58	55	48
$50,000-$74,999	42	48	62	47
$75,000 and over	26	53	63	46
Total	44	50	57	49
C. First Choice College Enrollment Gap for Blacks				
Less than $10,000	-11%	-10%	-29%	-16%
$10,000-$19,999	-26	-13	- 8	-18
$20,000-$29,999	-16	-15	-16	-17
$30,000-$39,999	- 9	-13	-16	-14
$40,000-$49,999	-26	- 9	-10	-17
$50,000-$74,999	-10	-18	- 4	-17
$75,000 and over	-21	- 8	0	-13
Total	-13	-13	-11	-14

institution cited this reason as very important in selecting their institution, compared to 52 percent who were enrolled in their second or lower choice institution. Over the years between 1975 and 1986, this difference has remained about constant.

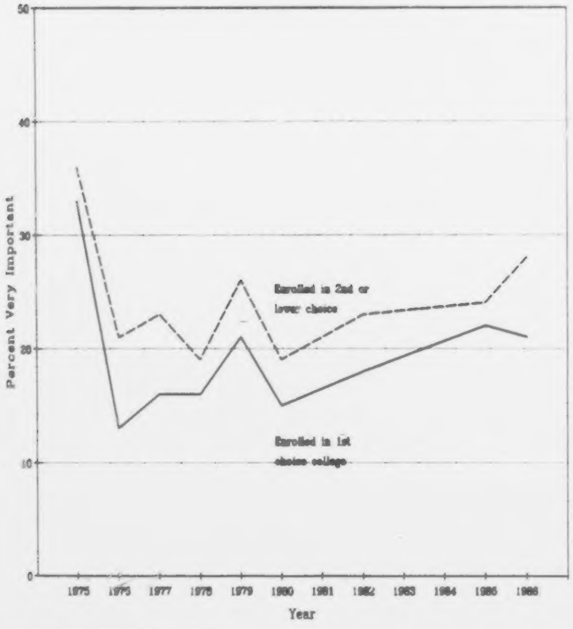
Blacks who were enrolled in their first choice institution were also more likely to cite the availability of a special educational program as one of their reasons for enrolling at their college. In 1986, 39 percent of those enrolled in their first choice college gave this as an important reason for their choice of college, compared to 32 percent of those who were enrolled in their second or lower choice college. In recent years this difference has narrowed: in the 1970s, students enrolled in their second or lower choice college cited this reason less frequently than in the mid 1980s.

On only one reason for choosing a college do blacks enrolled in their first choice college give less weight to a choice factor than do blacks enrolled in their second choice college: low tuition. Expressed another way, blacks who do not enroll in their first choice college more often cite low tuition as a very important reason in their college choice than do blacks enrolled in their first choice college. Cost, apparently, is a crucial factor for blacks who do not enroll in their first choice college.

Because of the significance of this finding, we will examine it in more detail. Figure 55 shows the proportion of black college freshmen enrolled in their first choice and second or lower choice college who cited low tuition as a very important factor in selecting the college where they were enrolled in the fall terms between 1975 and 1986. Among other things, this chart shows the growth in importance of this factor in college choice for blacks enrolled in both their first and second or lower choice colleges between about 1981 and 1986.

Other responses black freshmen give to queries about reasons for choosing the college where they enrolled point to financial concerns as well. Three black freshmen in eight cite the offer of financial assistance as an important reason in choosing their college. This proportion is higher in the mid 1980s than at any time since the mid 1970s, when this question was first asked on the CIRP survey of college freshmen. The

FIGURE 55
IMPORTANCE OF LOW TUITION TO BLACK COLLEGE FRESHMEN
ENROLLED IN FIRST AND SECOND CHOICE COLLEGES
1975 TO 1986



Source: National College Freshmen Norms, CIRP, Annual.

importance of living at home, which declined for black college freshmen between the mid 1970s and the early 1980s, has reemerged in the mid 1980s as a more important reason for choosing a college. In 1986 for the first time it became more important to black freshmen enrolling in their second choice college than it was to black freshmen enrolling in their first choice college.

When we compare the responses of white and black college freshmen, the reasons given for choosing the college in which they enrolled also show important differences. Although both whites and blacks are deeply concerned about the academic reputation of the institutions in which they enroll, blacks are more likely than whites to give special weight to the presence of special educational programs and the offer of financial assistance.

Highest degree planned. About 70 percent of all freshmen who start college on a full-time basis plan to earn at least a bachelor's degree. Blacks are now as likely as whites to seek at least a four-year degree, but this was not always the case. Figure 56 shows these data for white and black college freshmen for the years between 1975 and 1986. The trends are clear: growth in the proportion of both white and black college freshmen planning to earn at least a bachelor's degree between 1975 and 1980, followed by a decline in this proportion through 1986.

The gap between black and white degree aspirations has largely closed between 1975 and 1986, as shown in Figure 57. In 1975, 11 percent fewer black freshmen than white planned to earn at least a bachelor's degree. By 1986 this difference had been reduced to 1 percent.

College Completion

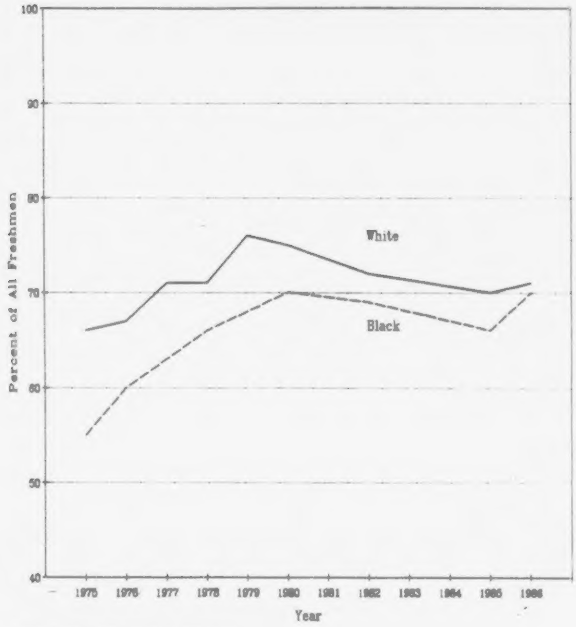
We define college completion here the same way as in the earlier analysis for women: the proportion of the population age 25 to 29 with at least some college that has completed four years or more of college. Or expressed another way, of those who start college, the proportion that complete at least four years of college. Here we compare the experiences of blacks with whites, for the years 1964 through 1989, using published and unpublished Census Bureau data collected in the Current Population Survey.

Since 1964, the proportion of whites age 25 to 29 years with at least some college that completed four years or more has increased very slightly, from about 50 percent in the mid 1960s to about 54 percent my the mid 1970s, and again by the late 1980s.

In contrast, the experience for blacks has been a nearly steady and very substantial deterioration in college completion between 1964 and 1989. The completion rate for blacks age 25 to 29 years who have started college has declined from about 45 percent in the mid 1960s to about 32 percent by 1987. This decline, briefly interrupted in the mid 1970s, resumed its downward trend by 1980, and reached a new low in 1987. These data are shown in Figure 58.

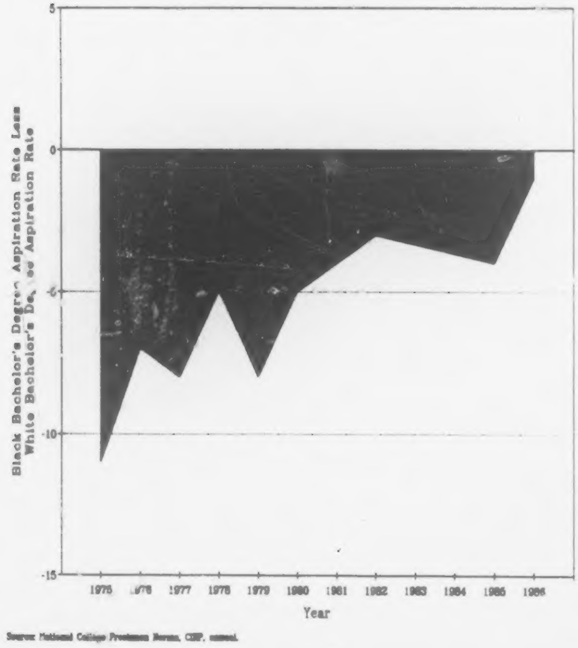
The completion gap--the difference between the white and black completion rates--has widened from about 5 percent in the mid 1960s to 20 percent by 1987. Blacks 25 to 29 years of age in the mid 1960s had a college completion rate through four years of college about 90 percent that of whites. For 25 to 29 year old blacks in 1987, the college completion rate was about 60 percent that of whites. Figure 59 charts these data.

FIGURE 56
HIGHEST DEGREE PLANNED IS BACHELOR'S OR GREATER FOR WHITE AND BLACK COLLEGE FRESHMEN
1975 TO 1986



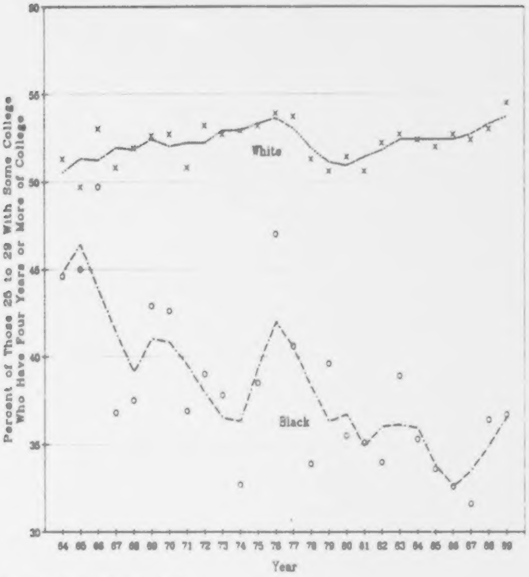
Source: National College Freshmen Norms, CIRP, annual.

FIGURE 57
HIGHEST DEGREE PLANNED IS BACHELOR'S OR GREATER GAP FOR BLACK COLLEGE FRESHMEN
1975 TO 1986



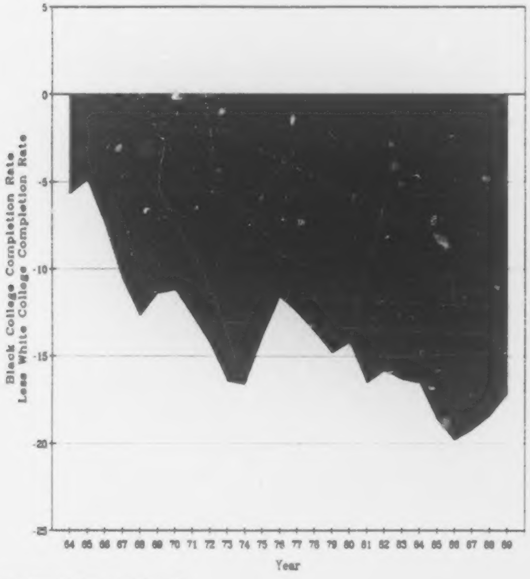
Source: National College Freshmen Norms, CIRP, annual.

FIGURE 58
COLLEGE COMPLETION RATES
FOR PERSONS 25 TO 29 YEARS OLD BY RACE
1964 TO 1989



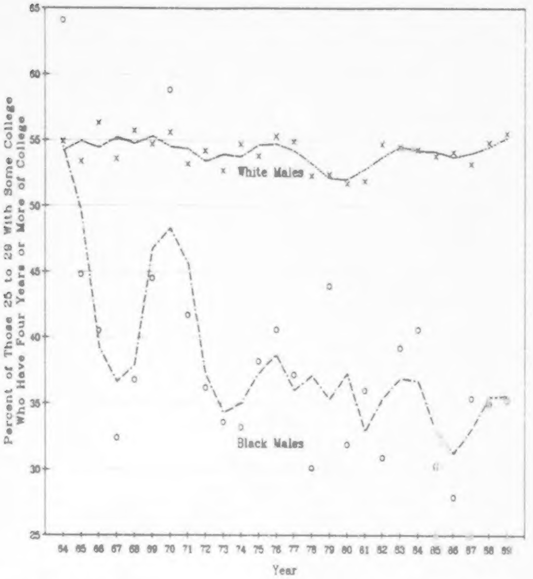
Source: Current Population Reports, Series P-20.

FIGURE 59
COLLEGE COMPLETION RATE GAP
FOR BLACKS AGE 25 TO 29 YEARS OLD
1964 TO 1989



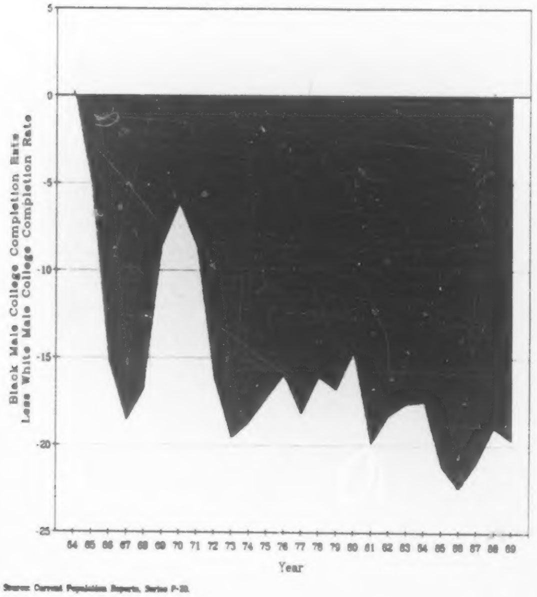
Source: Current Population Reports, Series P-20.

FIGURE 60
COLLEGE COMPLETION RATES FOR MALES 25 TO 29 YEARS OLD BY RACE
1964 TO 1989



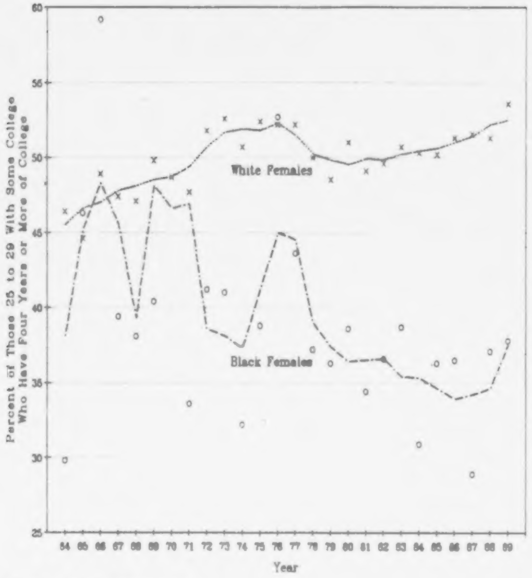
Source: Current Population Reports, Series P-20.

FIGURE 61
COLLEGE COMPLETION RATE GAP FOR BLACK MALES AGE 25 TO 29 YEARS OLD
1965 TO 1989



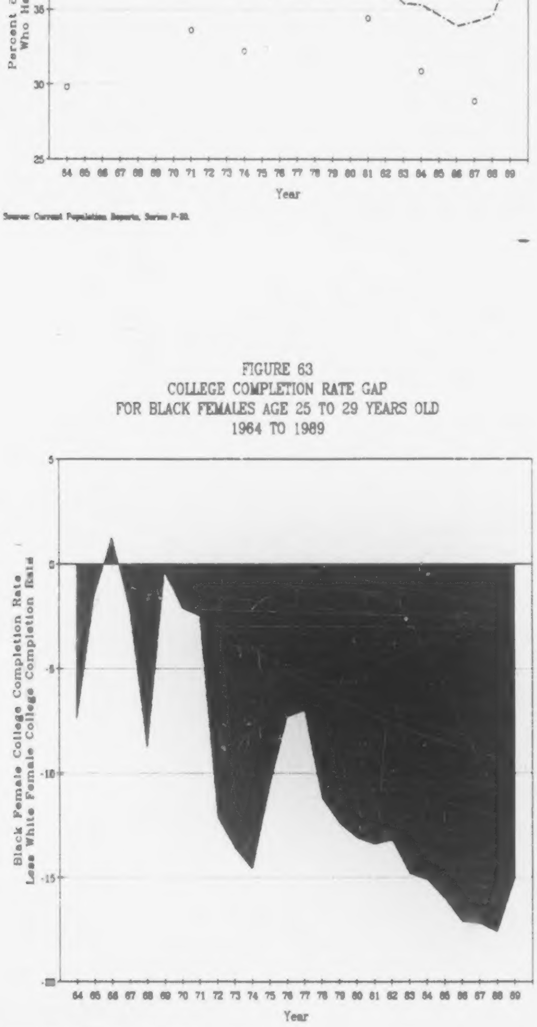
Source: Current Population Reports, Series P-20.

FIGURE 62
COLLEGE COMPLETION RATES FOR FEMALES 25 TO 29 YEARS OLD BY RACE
1964 TO 1989



Source: Current Population Reports, Series P-20.

FIGURE 63
COLLEGE COMPLETION RATE GAP FOR BLACK FEMALES AGE 25 TO 29 YEARS OLD
1964 TO 1989



Source: Current Population Reports, Series P-20.

The significance of this finding cannot be overstated. The promises that were offered to American blacks in terms of access to higher education through the Higher Education Act of 1965 and the subsequent 1972 Education Amendments, particularly between the mid 1960s and late 1970s, appear to have been taken away by increased attrition in higher education. Because of the significance of this finding, we will describe it in more detail for black males and females.

Men. The Current Population Survey data on which this analysis is based uses samples of the population, and the sampling processes introduce variation that obscures the underlying trends that we wish to examine here. Therefore, Figure 60 plots both the reported rates as well as a moving three year average of these rates.

The moving three year average of white male college completion rates averages nearly 55 percent between 1964 and 1987, with a slight dip around 1980. The black male college completion rate, on the other hand, shows wide initial fluctuation--from about 55 percent in the mid 1960s to 37 percent in 1967, to 48 percent in 1970 to 34 percent in 1973--and then moves less erratically down from 38 percent in 1976 to 32 percent by 1987. These data are shown in Figure 60.

The difference between the white and black male college completion rates is graphed in Figure 61. The gap grows from near zero in 1964 to about 22 percent by 1986 and 1987. Nearly all of the growth in the college completion gap occurred between 1964 and 1973 (corresponding to the period of greatest narrowing in the college access gap shown in Figure 36), although the gap has widened further in the mid 1980s.

Women. A somewhat different college completion gap has evolved since 1964 for black women age 25 to 29 compared to white females. These data are charted in Figure 62. Again, statistical noise is present, and we address it by also plotting a moving three year average of the annual observations.

For white women, the college completion rate has increased slowly, from about 46 percent in the mid 1960s to about 52 percent by 1987. For black women, the rate has decreased from very roughly 45 percent in the mid 1960s to about 33 percent by 1987.

The trend lines for both continue in historic fashion: upward for white women, downward for black women. The college completion gap between black and white women has grown, as shown in Figure 63, from a few percent in the 1960s to about 18 percent by 1987. The college completion gap for black women is narrower than for black men, but it has also widened faster for black women than it is for black men over the last decade. Compared to whites by gender, the college completion rate for black women is deteriorating faster than it is for black men.

Field of Study

Our analysis of the fields of undergraduate collegiate study chosen by blacks uses data from the survey on baccalaureate degrees earned in American higher education, a survey conducted annually by the National Center for Education Statistics. However, the racial/ethnic categorization of baccalaureate degree reporting was not initiated until the 1976-77 academic year. Due to data collection problems, NCES has not published the 1982-83 survey results. Although this data file is limited, it offers important insights into what blacks study when they pursue a baccalaureate program in college, and how those choices have changed since 1977.

In 1977, 28 percent of all baccalaureate degrees received by blacks were earned in education and social sciences, and another 17 percent in business. By 1985 the proportion of baccalaureates received in education and social sciences had dropped to 20 percent, and the proportion in business had increased to 26 percent. This redistribution--and many others as well-- occurred among whites also.

The enrollment shifts that these data reflect are directly and forcefully influenced by the shifting labor market demand for college graduates. Microeconomics teaches that as demand for a good or service increases, either price or supply will increase, and perhaps both in the short run until demand-supply equilibrium is reestablished. As the demand for a good or service decreases, price or supply will decrease, again at least in the short term. Because we know that student demand for higher education is driven forcefully at the economic margin by individuals' desires to earn more money and get a better job, the shifts in student enrollment reflected in changing distributions of baccalaureate degree awards are a direct measure of changing labor market demands for college graduates. For example, the declining proportion of baccalaureate degrees earned by blacks in education and social sciences reflects relatively weak labor markets for graduates from these fields. Similarly, the growth in baccalaureate degree awards to blacks in business, communications, computer science, engineering, health professions, and public affairs is a direct reflection of relatively stronger labor market demand for baccalaureate degree recipients in these fields.

In Figure 64 we have compared the proportion of white and black baccalaureate degree awards received in growth fields (indicating strong labor market demand) between 1977 and 1985. Over the time span of available data, a larger share of white baccalaureate degrees has been earned in fields experiencing growth (fields that supply stronger labor markets and, hence, attract higher salary offers following graduation and/or greater likelihood of finding employment). Roughly 52 percent of all baccalaureate degrees received by whites were in growth fields. For blacks, the proportion averaged about 47 percent.

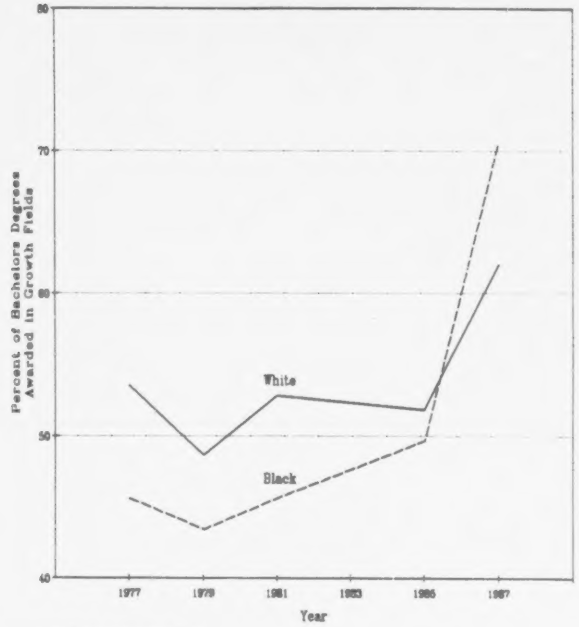
Notably, however, blacks have become better tuned in to the dynamics of the labor market for college graduates, and they have shifted their enrollments accordingly. Whereas about 45 percent of black baccalaureate degrees were earned in growth fields between 1977 and 1981, by 1985 this proportion had risen to nearly 50 percent. The gap between the rates at which blacks and whites earned degrees in growth fields narrowed from about 7 percent between 1977 and 1981 to about 2 percent by 1985, and to a 7 percent advantage for blacks by 1987, as shown in Figure 65.

The significance of this finding should not be misjudged. Blacks share similar goals in life to whites, and view higher education similarly as the path to those goals. Black's abilities to achieve them depends in no small measure on the fields of study they choose to pursue in college. As suggested in Figure 46, black undergraduate enrollments are becoming increasingly sensitive to the labor market signals that have enabled white college graduates to choose studies that maximized their return on their collegiate investment decision.

Baccalaureate Degree Attainment

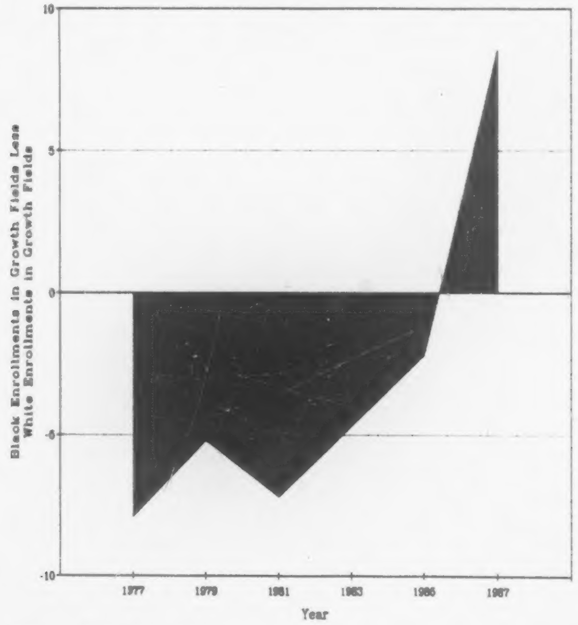
Finally, we summarize the preceding data on college access and completion by examining the rates at which high school graduates attain baccalaureate degrees from college four years later. The following analysis is particularly treacherous insofar as

FIGURE 64
BACCALAUREATE DEGREE CONCENTRATION IN GROWTH FIELDS FOR WHITES AND BLACKS
1977 TO 1987



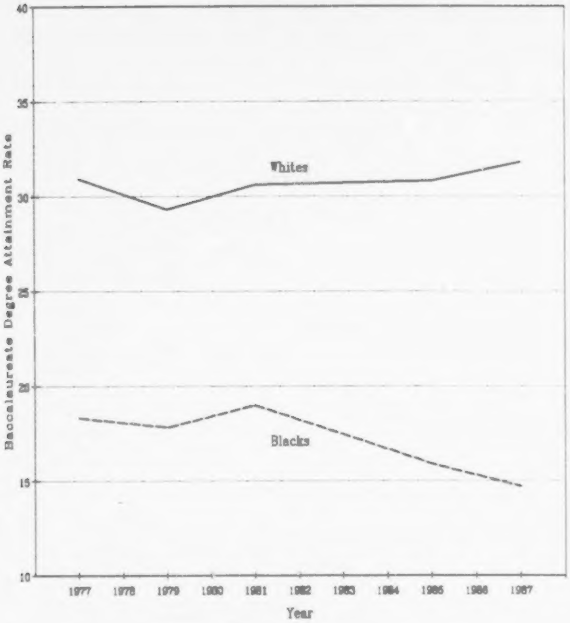
Source: National Center for Education Statistics.

FIGURE 65
BACCALAUREATE DEGREE CONCENTRATION GAP IN GROWTH FIELDS FOR BLACKS
1977 TO 1987



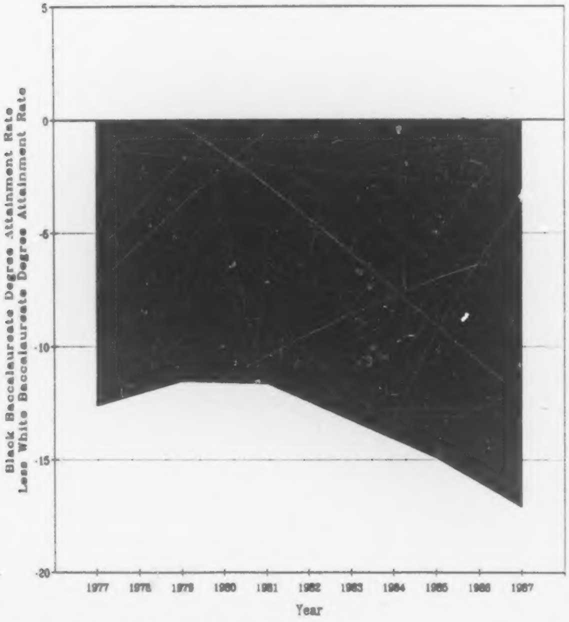
Source: National Center for Education Statistics.

FIGURE 66
BACCALAUREATE DEGREE ATTAINMENT RATES FOR HIGH SCHOOL GRADUATES BY RACE
1976-77 TO 1986-87



Source: Bureau of Labor Statistics, National Center for Education Statistics

FIGURE 67
BACCALAUREATE DEGREE ATTAINMENT GAP FOR BLACK HIGH SCHOOL GRADUATES
1976-77 TO 1986-87



Source: Bureau of Labor Statistics, National Center for Education Statistics blacks take more time to complete their educational studies than do whites. However, we present this analysis under the assumption that blacks accumulate opportunity costs by delaying college access and prolonging college attendance in ways that produce barriers to degree attainment similar to those for any other group. Those most likely to earn a baccalaureate degree from any racial, ethnic, or gender group are those who pursue higher education immediately after high school graduation and on a full-time basis.

Baccalaureate degree attainment rates for whites have remained fairly constant at about 30 percent over the last decade. The rate has ranged from a low of 29 percent for those who graduated from college in 1978-79, to a high of about 32 percent for those who graduated in 1986-87. These data are shown in Figure 66.

The baccalaureate degree attainment rates for blacks, however, are considerably lower. For the years between 1976-77 and 1980-81, the rate for blacks averaged about 18 percent, and reached a peak of 19 percent in 1980-81. Since that year, the rate has dropped sharply for blacks, to about 16 percent by 1984-85, and less than 15 percent by 1986-87, as shown in Figure 67.

As the white rate has remained stable and the black rate has declined, the baccalaureate degree attainment gap for blacks has widened, from about 12 percent through 1980-81, to about 17 percent by 1986-87. While the black rate stood at around 60 percent of the white rate through 1980-81, since then it has dropped to about 46 percent of the white rate.

The difference in the baccalaureate degree attainment rates for whites and blacks may be quantified as follows: if black high school graduates had graduated from college at the same rate as whites in 1986-87, instead of the 56,600 black college graduates there would have been about 122,100. The decline in the rate for blacks between 1980-81 and 1986-87 alone contributed about 19,000 of this difference, while the remainder of more than 100,000 was the result of the historical difference in the baccalaureate degree attainment rates for whites and blacks.

Summary

In this section we have sought to describe the current status of equity of higher educational opportunity for blacks by comparing the experience of blacks with whites over the last several decades. This section also purposely follows the section comparing the experience of women with men in higher education. Our comparison in this section compared and contrasted the higher educational experience of whites and blacks in six areas of higher educational opportunity: preparation for college, access to college, college choice, persistence in college, field of study, and baccalaureate degree attainment.

With respect to the goal of equity of higher educational opportunity, the findings from this examination are largely, but not completely, negative. Early in the process, before blacks enter college, there is evidence of substantial progress in preparation for college. After that the findings presented in this study turn spotty at the point of transition from high school into college, and deteriorate sharply through completion and baccalaureate degree attainment.

On the bright side, blacks are clearly making significant progress in preparing themselves for higher education. Blacks are improving their performance on standardized tests measuring preparation to do college academic work as measured on both the National Assessment of Educational Progress and the ACT Assessment. Moreover, they are persisting through high school to graduation at greater rates than in the past. In fact, black high school graduation rates now nearly equal those for whites.

However, little after high school appears to be working right for blacks when compared to whites. College access declined sharply in the early 1980s while white college access was increasing. Since 1985 this situation appears to have improved significantly. The pattern of fluctuation in college entrance rates appears to have affected blacks in central cities, suburbs, and nonmetropolitan areas about equally. We examined military data on enrollment of black male high school graduates and found parallels with collegiate enrollment experience for blacks: since 1979 the military enrollment rate of black male high school graduates has declined while white male rates have increased. An examination of black enrollments in proprietary schools suggests blacks are enrolled there at slightly higher rates than whites, but not enough to account for their absence from collegiate and military enrollments.

College choice has deteriorated for blacks and whites alike, but in different ways and with different consequences. Blacks are more aggressive than whites in applying to more than one college for admission, but report lower college acceptance rates than whites. The net outcome of these conditions is that enrolled black freshmen are more likely than whites to have several colleges from which to choose their enrollment. However, blacks are far less likely than whites to actually enroll in their first choice college, a condition that does not appear to have changed much since 1975. Only when blacks come from families with incomes over $75,000 per year and report high school grades of A are they as likely as whites to enroll in their first choice college.

College completion has deteriorated for blacks--but not whites--almost consistently, year after year, since 1964. The only exception was a three year period during the mid 1970s when the college completion rate for blacks improved slightly. Otherwise, black college attrition has simply taken off, offsetting even temporary gains made in black college access achieved between 1960 and the mid 1970s. While black male college completion rates are lower than white male rates, this has been true since the late 1960s. More striking has been the experience of black females compared to white females: between 1964 and 1971 black and white women who started college were about equally likely to have completed four years or more of college by the time they were 25 to 29 years old. Since 1971, however, this condition of equality has become one of great inequality as the black female college completion rate has declined substantially and almost steadily while the rate for white females has increased slightly.

Since 1961, baccalaureate degree attainment has deteriorated for blacks while it has increased slightly for whites. Blacks who graduate from high school are now less than half as likely as whites to earn a baccalaureate degree, compared to about 60 percent as likely through 1980-81.

The contrasts between the experience of blacks and whites, and of blacks and women, are striking in many ways. White test scores and high school graduation rates have not increased, but their college enrollment rates have. Black test scores and high school graduation rates have increased, but in the early 1980s their college entrance rates collapsed. For women, though test scores have not improved, both high school graduation rates and college entrance rates have increased.

Most devastating to the goal of equity of higher educational opportunity for blacks has been the collapse in college completion behavior. Though these data show no improvement for whites or women, they clearly show deterioration for blacks. For blacks, to have gained access in the 1970s and concurrently lost completion almost steadily between 1964 and 1987, suggests the most profound of failures: expansion of the appearance of higher educational opportunity through improved access, accompanied by deterioration in completion, produced no measurable gain in higher educational attainment.

IV. Hispanics

> **"On the basis of the relatively limited data available, the picture of equity of higher educational opportunity for Hispanics is mixed. It appears most important to distinguish behaviors and achievements of Mexican-Americans from other Hispanics. Our analyses reveal that the most serious problems in higher educational preparation and participation are clearly concentrated in the Mexican-American subgroup. At every step on the education ladder, Mexican-Americans fare worse than other Hispanics and non-Hispanic whites."**

A more recent arrival on the American political agenda of equity of higher educational opportunity is the Hispanic population. Although racial data, particularly on blacks, has been standard fare since the inception of census statistics in 1790, the ethnic designation of "Hispanic" first appears in Census Bureau Current Population Reports on education in the early 1970s. Thus, time series analyses of higher educational participation for the Hispanic population is largely limited to the period after the great changes in higher educational opportunity for blacks and women were achieved, between 1966 and 1976.

Moreover, the Hispanic population is not homogeneous. The Hispanic population of the United States has diverse geographic, cultural, and socioeconomic origins, and that diversity implies widely different opportunities for participation in higher education. The analyses described here are necessarily limited to available data, which sometimes imply a general description of the Hispanic population's participation in higher education since the mid 1970s. In this study we will use the Census Bureau's definitions and classifications, determined by how individuals in the Current Population Survey identified their origin or descent. Persons of Hispanic origin reported themselves as Mexican American, Chicano, Mexican, Mexicano, Puerto Rican, Cuban, Central or South American, or other Hispanic origin. Persons of Hispanic origin may be of any race.

However, where the Census data will allow, one subset of the American Hispanic population--Mexican-Americans--will be separated from other Hispanics. This subgroup refers to individuals who identified themselves as Mexican American, Chicano, Mexican, or Mexicano. With regard to equity of higher educational opportunity, the Mexican-American subpopulation stands out from other groups-including other Hispanic groups--by its lack of preparation for, commitment to, and participation in American higher education.

In the following analyses, we will examine the components of higher educational opportunity for Hispanics on the basis of comparison with whites. Because "white" is a racial classification and Hispanics may be of any race including white, the white data will often include Hispanics. (Note: Non-Hispanic whites are sometimes referred to as "Anglos," a designation not used in this study.) But because Hispanics represent very small numbers within the white racial group, the major distinctions this study seeks to highlight will still be apparent and useful.

In this section, we will describe equity of higher educational opportunity by the dimensions used previously: preparation for college, access to college, college choice, college completion, field of study, and baccalaureate degree attainment.

Preparation for College

Analysis of Hispanic preparation for college considers the same aspects of academic preparation and high school graduation used in the previous analyses of higher educational preparation by women and blacks.

Standardized tests. The National Assessment of Educational Progress (NAEP) has compiled test score results for Hispanics since 1973. These results are compared to whites in Table 6 on the following page. In the NAEP assessment series, average Hispanic test scores consistently fall below average scores for whites. Within this general finding, however, the picture is mixed. On most tests mean Hispanic scores are improving, and improving at a faster rate than mean scores for whites. Though the gap remains large, it is narrowing.

Another important finding in the NAEP assessment results is on the mathematics, science, and reading tests: the gap between white and Hispanic performance tends to grow with age. That is, the gap between white and Hispanic test scores at age 9 often increases by age 13, and then often increases further by age 17 when students are approaching the transition from high school into college.

The ACT Assessment provides another measure of academic preparation for collegiate study. Figure 68 shows mean ACT composite scores for whites, Mexican-Americans, and other Hispanics since 1977. Scores for whites have been virtually flat over this time period, while scores for Mexican-Americans and other Hispanics have increased by 1.5 to 2 points.

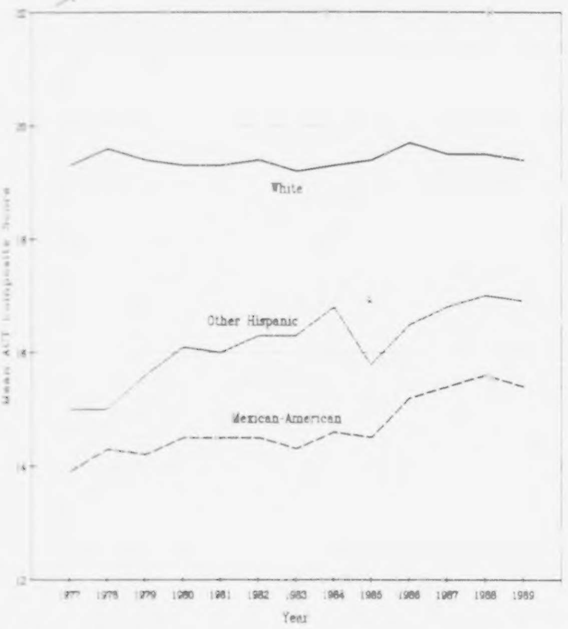
The gap between white and Mexican-American mean ACT Composite Assessment scores is shown in Figure 69. As in the NAEP test score data, a substantial gap exists between white and Mexican-American test results. At the same time, the difference between the two has closed, especially since 1985. And, as in the NAEP data, the reduction in the difference between mean test scores for the two groups results primarily from the improvement in Mexican-American test scores.

In the Congressional Budget Office study Trends in Education Achievement (1986), the summary noted improvement in Hispanic student test scores compared to nonminority whites:

> **"Hispanic students, who also typically have average scores well below those of nonminority students, showed relative gains over the last decade. The improvement appears to have been greater among Mexican-American students than among other Hispanics. These patterns are less clear-cut, however, because of more limited data, ambiguities in the classification of diverse Hispanic students, and the relatively small number of Hispanics in the test data."** (Pp. xix)

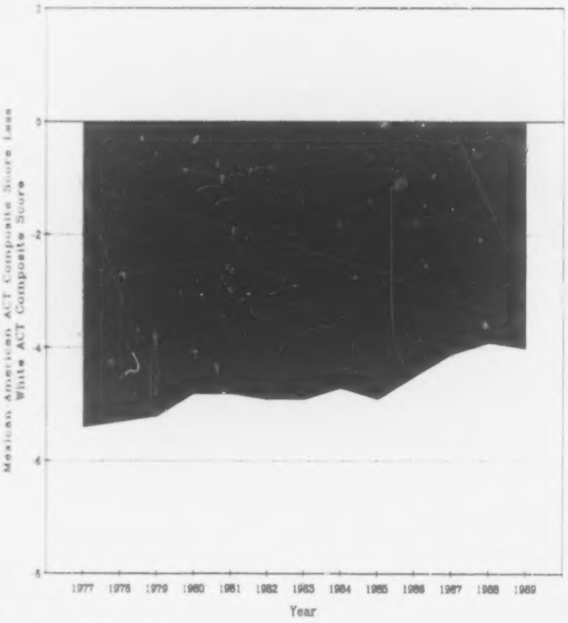
College preparatory curriculum. The college prep curriculum students would take in high school to be academically prepared for college course work consists of four years of English, and three years each of mathematics, natural science, and social studies. Previous ACT studies have shown the relationship between this course work and performance on the ACT Assessment, which in turn is a predictor of academic success in college.

FIGURE 68
ACT ASSESSMENT SCORES
FOR WHITES, MEXICAN-AMERICANS, AND OTHER HISPANICS
1977 TO 1989



Source: The American College Testing Program.

FIGURE 69
ACT ASSESSMENT SCORE GAP
FOR MEXICAN-AMERICANS COMPARED TO WHITES
1977 TO 1989



Source: The American College Testing Program.

TABLE 6
National Assessment of Educational Progress
Scores on Mathematics, Science, Reading, Writing, and Civics Tests for 9, 13, and 17 Year Olds Whites and Hispanics
1970-1988

	Age 9			Age 13			Age 17		
	White	Hisp.	Diff.	White	Hisp.	Diff.	White	Hisp.	Diff.
Mathematics (Scores: 0 to 500)									
1973	224.9	202.1	-22.8	273.7	238.8	-34.9	310.1	277.2	-32.9
1978	224.1	202.9	-21.2	271.6	238.0	-33.6	305.6	276.3	-29.3
1982	224.0	204.0	-20.0	274.4	252.4	-22.0	303.7	276.7	-27.0
1986	226.9	205.4	-21.5	273.6	254.3	-19.3	307.5	283.1	-24.4
73-86:	+2.0	+3.3	+1.3	-.1	+15.5	+15.6	-2.6	+5.9	+8.5
Science (Scores: 0 to 500)									
1977	229.6	191.9	-37.7	256.1	213.4	-42.7	297.7	262.3	-35.4
1982	229.1	189.0	-40.1	257.3	225.5	-31.8	293.2	248.7	-44.5
1986	231.9	199.4	-32.5	259.2	226.1	-33.1	297.5	259.3	-38.2
77-86:	+2.3	+7.5	+5.2	+3.1	+12.7	+9.6	-.2	-3.0	-2.8
Reading (Scores: 0 to 500)									
1975	216.6	182.8	-33.8	262.1	232.5	-29.6	293.0	252.2	-40.8
1980	221.3	189.5	-31.8	264.4	236.8	-27.6	293.1	260.7	-32.4
1984	218.3	187.2	-31.1	262.6	239.6	-23.0	295.6	268.1	-27.5
1988	217.7	193.7	-24.0	261.3	240.1	-21.2	294.7	270.8	-23.9
75-88:	+1.1	+10.9	+9.8	-.8	+7.6	+8.4	+1.7	+18.6	+16.9
Writing/Informative (Scores: 0 to 6)									
1979	3.0	2.0	-1.0	3.2	2.6	-.6	3.5	2.8	-.7
1984	3.0	2.7	-.3	3.3	2.9	-.4	3.7	2.9	-.8
79-84:	0	+.7	+.7	+.1	+.3	+.2	+.2	+.1	-.1
Writing/Persuasive (Scores: 0 to 6)									
1979	3.2	2.3	-.9	2.9	2.3	-.6	3.3	3.0	-.3
1984	3.0	2.5	-.5	3.1	2.4	-.7	3.7	3.5	-.2
79-84:	-.2	+.2	+.4	+.2	+.1	-.1	+.4	+.5	+.1
Writing/Imaginative (Scores: 0 to 6)									
1974	2.9	1.9	-1.0	3.3	2.8	-.5	3.8	3.5	-.3
1979	2.9	2.2	-.7	3.0	2.3	-.7	3.6	2.8	-.2
1984	3.3	2.3	-1.0	3.0	2.7	-.3	3.7	3.4	-.3
74-84:	+.4	+.4	0.0	-.3	-.1	+.2	-.1	-.1	0.0
Civics (Scores: 0 to 100)									
1976				50.7	41.1	-9.6	63.4	51.5	-11.9
1982				50.7	43.9	-6.8	63.6	52.3	-11.3
1988				51.2	45.5	-5.7	61.4	53.8	-7.6
76-88:				+.5	+4.4	+3.9	-2.0	+2.3	+4.3

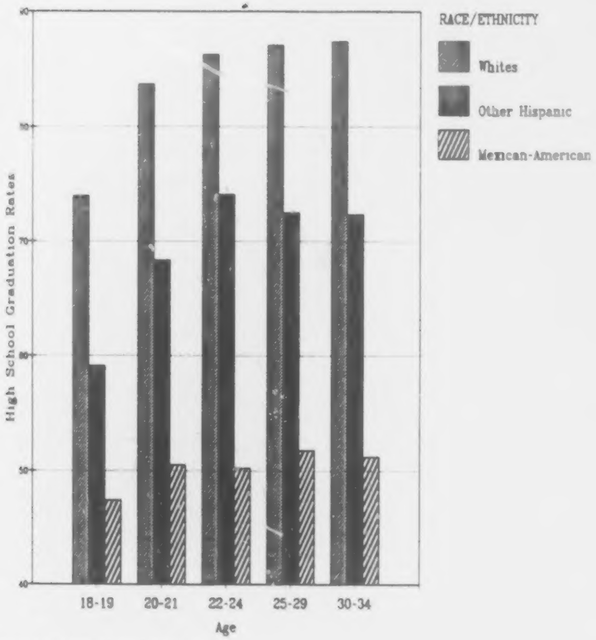
Source: National Assessment of Educational Progress reports.

In 1990, 44 percent of the Mexican-American college-bound high school seniors taking the ACT Assessment reported that they had completed the college preparatory curriculum in high school. The comparable number for other Hispanics was 52 percent and for whites was 49 percent. This also means that 56 percent of the college-bound Mexican-Americans and 48 percent of other Hispanics had not completed this curriculum, and therefore were not fully academically prepared for college.

Among Mexican-Americans, the proportion completing the college preparatory course work in high school ranged from 36 percent of those from families with incomes of less than $6000 per year, to 55 percent of those from families earning more than $60,000 per year. Between 1987 and 1990--when information about the college preparatory curriculum and its relationship to performance on the ACT Assessment was being disseminated--the proportion of Mexican-Americans completing this curriculum in high school increased from 32 to 44 percent. This increase was greater than for any other racial-ethnic group taking the ACT Assessment during this period.

Among other Hispanics, the proportion completing the college prep course work in high school ranged from 36 percent of those from families with incomes of less than $6000 per year to 64 percent of those from more than $60,000 per year. Between 1987 and 1990 the proportion of other Hispanic ACT Assessment takers reporting having completed the college preparatory course work in high school increased from 44 to 52 percent--a smaller increase than for any other racial-ethnic group taking the ACT Assessment.

FIGURE 70
HIGH SCHOOL GRADUATION RATES BY AGE
FOR WHITES, MEXICAN-AMERICANS, AND OTHER HISPANICS
1989



Source: Current Population Survey, Series P-20.

High school graduation. Hispanic students complete high school at significantly lower rates than whites. As shown in Figure 70, Mexican-Americans are about as likely to graduate from high school at age 18 and 19 years as they are at any time later in life. Only about half of all Mexican-Americans ever graduate from high school, compared to about 87 percent for whites and about 74 percent for other Hispanics. About 59 percent of other Hispanics have graduated from high school by age 18 and 19, about 68 percent by 20 and 21, and between 72 and 74 percent after that. The Mexican-American population stands out from any other population under study here by its low high school high school graduation rates.

The rates at which white, Mexican-American, and other Hispanic 20 to 21 year olds have graduated from high school is shown in Figure 71. Over the last 15 years, the white high school graduation rate has remained flat, about 85 percent. During the same period, the rate for other Hispanics has increased slightly, from about 69 percent to about 71 percent. The graduation rate for Mexican-Americans has fluctuated, but in 1988 it was below graduation rates reached in the mid 1970s and mid 1980s. Over the time period under study here, the high school graduation rate for Mexican-Americans has shown no improvement, and in fact appears to have declined somewhat.

The high school graduation rate gap between Mexican-Americans and whites is large: the gap stood at about 30 percent between 1976 and 1983, closed to about 23 percent by 1986, and by 1989 had reopened to more than 32 percent, as shown in Figure 72.

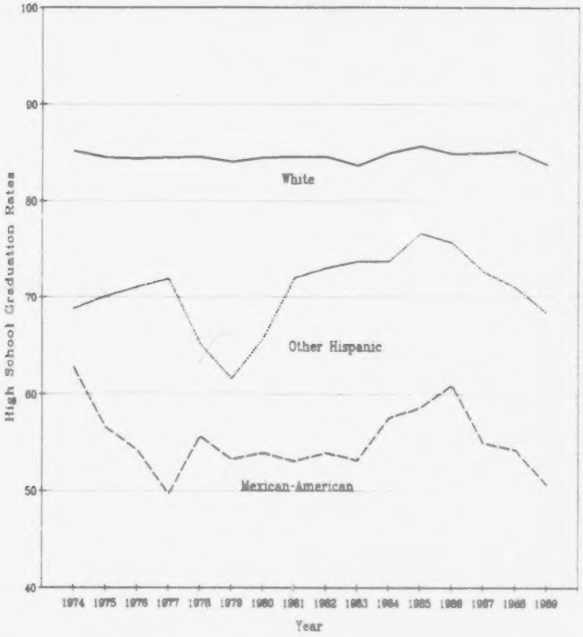
The findings here are discouraging for higher educational preparation by Mexican-Americans. Although academic preparation for college of Hispanics generally and Mexican-Americans in particular has generally improved compared to whites, the differences are large, and across grade levels Hispanics tend to fall farther and farther behind whites. At the same time, high school graduation rates for Mexican-Americans in particular are lower than for any other group under study here, and unlike any other group may have actually declined over the last 15 years. Other Hispanics--of traditionally Caribbean and more recently central American origin--are better off in preparation for college, and on the measure of high school graduation appear to have made some progress. The Mexican-Americans stand out as not having fulfilled their potential in the general improvement in preparation for college that characterizes women, blacks, and other Hispanics.

Access to College

18 to 19 year old high school graduates. Due to limitations of data, we will analyze the college enrollment behavior of Mexican-American and other Hispanic high school graduates in the 18 to 19 year old age range using Current Population Survey data, rather than the college enrollment behavior of recent high school graduates using Bureau of Labor Statistics data as was the case for females and blacks. Rather than limiting our analysis, this change permits important comparisons between the college access behavior of Mexican-American and other Hispanics and the behavior of whites, and covers a somewhat longer time period.

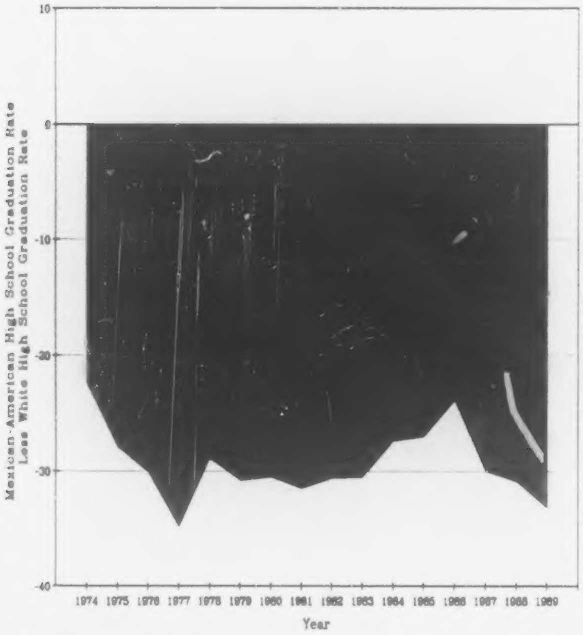
Since 1974, college access rates have generally gone up for whites, down for Mexican-Americans, and fluctuated for other Hispanics. But this simple description obscures even more interesting findings. As shown in Figure 73, the college enrollment

FIGURE 71
HIGH SCHOOL GRADUATION RATES FOR 20-21 YEAR OLD WHITES, MEXICAN-AMERICANS, AND OTHER HISPANICS
1974 TO 1989



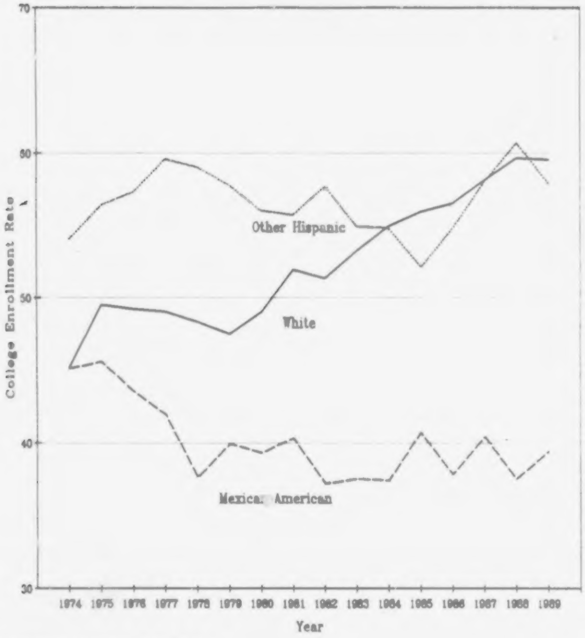
Source: Current Population Survey, P-20.

FIGURE 72
HIGH SCHOOL GRADUATION RATE GAP FOR 20-21 YEAR OLD MEXICAN-AMERICANS
1974 TO 1989



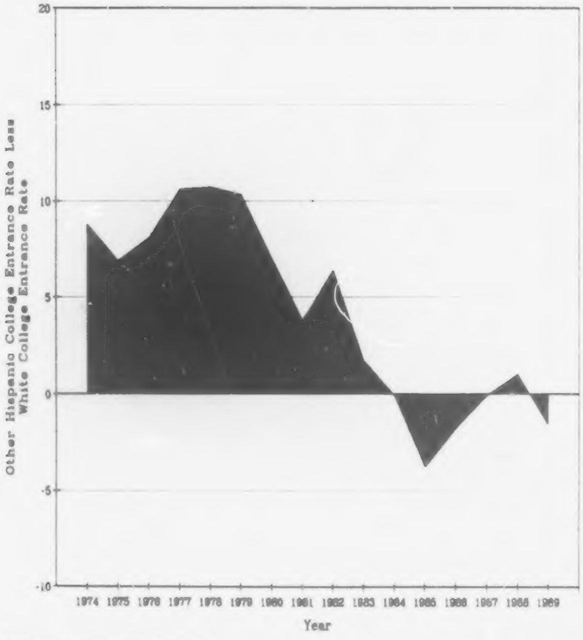
Source: Current Population Survey, P-20.

FIGURE 73
COLLEGE ENROLLMENT RATES FOR 18-19 YEAR OLD HIGH SCHOOL GRADUATES BY RACE/ETHNICITY
1974 TO 1989



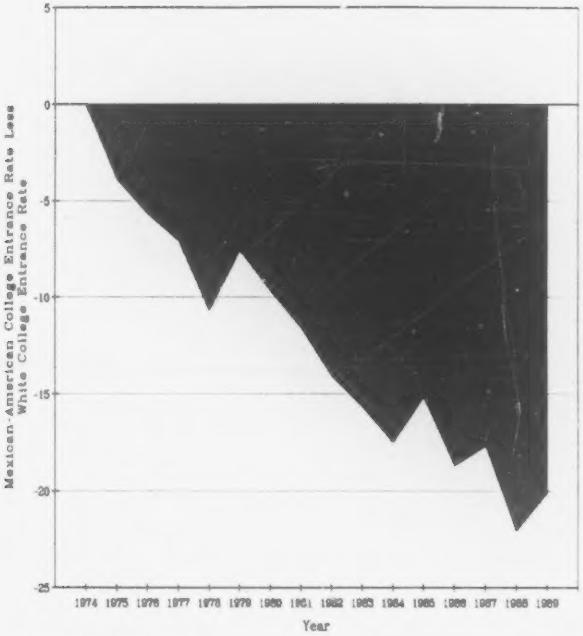
Source: Current Population Survey, Series P-20.

FIGURE 74
COLLEGE ENROLLMENT RATE GAP FOR 18-19 YEAR OLD OTHER HISPANIC HIGH SCHOOL GRADUATES
1974 TO 1989



Source: Current Population Survey, Series P-20.

FIGURE 75
COLLEGE ENROLLMENT RATE GAP FOR 18-19 YEAR OLD
MEXICAN-AMERICAN HIGH SCHOOL GRADUATES
1974 TO 1989



Source: Current Population Survey, Series P-20.

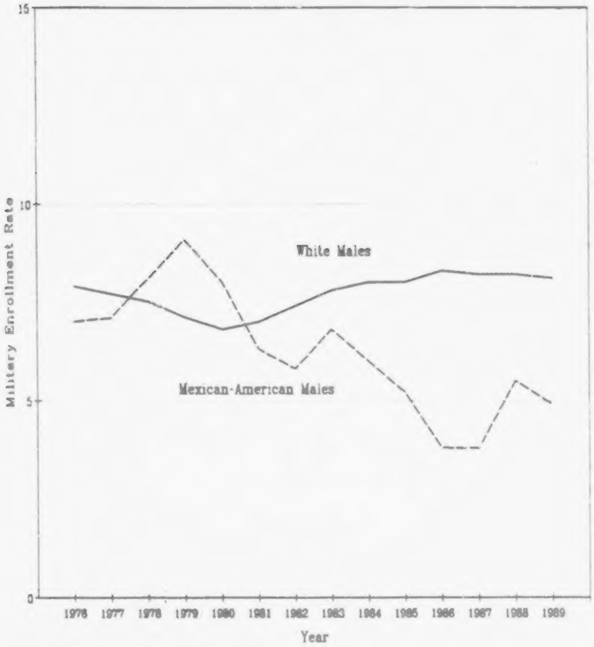
rate for 18 to 19 year old other Hispanic high school graduates has stood, until 1984, well above the rate for whites. Moreover, the Mexican-American college enrollment rate, which equaled the rate for whites in 1974, declined, especially between 1974 and 1978, and remained low after 1979 while the rate for whites was steadily increasing.

The result of these different trends has been a narrowing of the gap between white and other Hispanic college enrollment rates, and a widening of the gap between college enrollment rates for whites and Mexican-Americans. Figure 74 shows how the advantage other Hispanics had over whites through 1979 gradually was lost thereafter.

For Mexican-Americans compared to whites, the fifteen-year slide in college entrance rates for high school graduates is highlighted in Figure 75. Between 1974 and 1988, the college enrollment rate gap between Mexican-Americans and whites widened almost steadily. What had not been a problem in 1974 grew into a most serious problem by 1989.

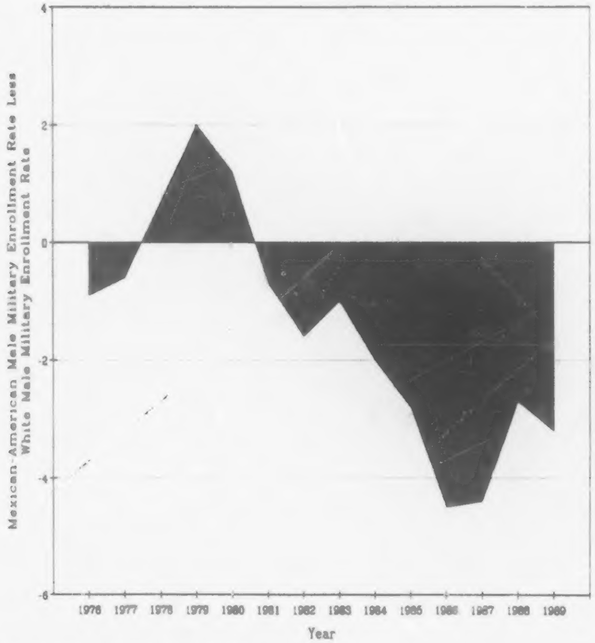
The results for both Mexican-Americans and other Hispanics indicate that the influences that increased marginal college enrollment behavior for whites, especially during the 1980s, did not affect the Hispanic community in the same way. When college access for whites was increasing, college access for Hispanics was generally stable or decreasing. We will examine the question of Mexican-American and other Hispanic motivation for college attendance shortly.

FIGURE 76
MILITARY ENROLLMENT RATES FOR WHITE AND MEXICAN-AMERICAN MALE
HIGH SCHOOL GRADUATES AGE 20 AND 21
1976 TO 1989



Source: Census Bureau and Defense Manpower Data Center.

FIGURE 77
MILITARY ENROLLMENT RATE GAP FOR MEXICAN-AMERICAN MALE
HIGH SCHOOL GRADUATES AGE 20 AND 21
1976 TO 1989



Source: Census Bureau and Defense Manpower Data Center.

Military service. The military has long provided career paths for black males. The same is not true now, however, for Mexican-American males. Figure 76 shows the military enrollment rate for white and Mexican-American men age 20 to 21 years old. Between 1976 and 1979 the military enrollment rate for Mexican-American males age 20 to 21 increased from 7 percent of the high school graduate population, to about 9 percent. Since 1979, however, this rate has declined, almost steadily, to 3.8 percent by 1986.

While the military enrollment rate for Mexican-American males has dropped sharply, the rate for white males has increased slightly. The result is a sharply widening gap in military enrollment rates for Mexican-American males. This gap stood at a 2 percent advantage to Mexican-Americans in 1979, but by 1986 Mexican-American males stood 4.5 percent below the rate for white males, as shown in Figure 77. Clearly, Mexican-American males have not sought out military service as an alternative to collegiate enrollment. In fact, the abysmal high school graduation rate prevents many from doing so because high school graduation (or its equivalent) has been a virtual military enrollment requirement for nearly a decade.

Proprietary institutions. The growth in the number of Pell Grants awarded to students enrolled in proprietary institutions during the 1980s has fostered speculation that minorities may have chosen an alternative postsecondary enrollment path to higher education. Figure 78 summarizes the known data on undergraduate enrollments in postsecondary institution for 1986. Of the 576,350 undergraduate Hispanics enrolled in postsecondary education in 1986, just 17,395 or 3 percent of the total were enrolled in proprietary institutions. Although private, for-profit schools only enroll 2.4 percent of white, non-Hispanic undergraduates, they appear to be only slightly more attractive to the Hispanic student body.

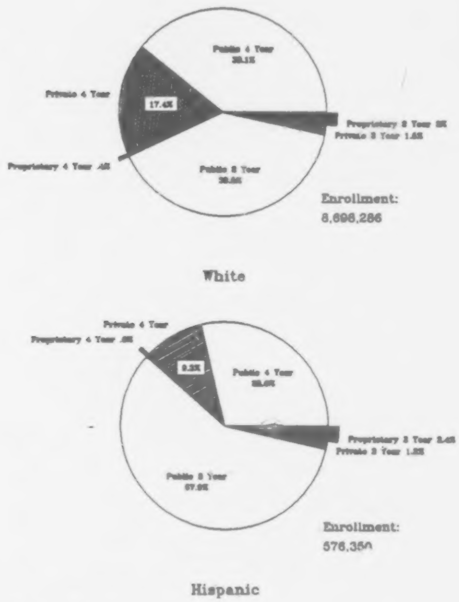
More importantly, Figure 78 highlights the enrollment of Hispanic undergraduates in public two year colleges. While 40 percent of white, non-Hispanic students were enrolled in public two year colleges, 58 percent of the Hispanic undergraduates were enrolled there. Concomitantly, 57 percent of whites were enrolled in four year colleges, compared to 39 percent of the Hispanic population.

Reasons for attending college. Hispanics who are enrolled in college as freshmen tend to cite as very important the same reasons for attending college cited by whites. As shown in Figure 79, whites, Mexican-Americans, and other Hispanics give greatest importance to the role of college in preparing them to get a better job and to learn more about things. Interestingly, both Mexican-Americans and other Hispanics give considerably greater weight to the general education value of higher education than do whites.

Objectives in life. Non-Hispanic white, Mexican-American, and other Hispanic college freshmen all give similar weights to various objectives in life. Each group gives similar weights to objectives related to economic welfare and social status: "to become very well off financially," "to become an authority in my field," "to raise a family," "to gain recognition from peers," etc. More interesting than the similarities, however, are the differences between these groups.

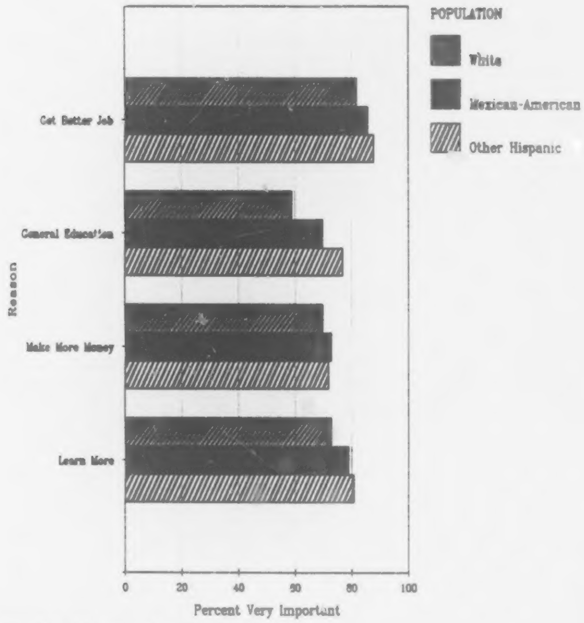
The greatest difference between Hispanics and whites is on the measure of promoting racial understanding. Both Mexican-Americans and other Hispanics--like blacks--feel this is more important than do whites. In 1986, 46 percent of the Mexican-Americans, 49 percent of other Hispanics, and 65 percent of blacks felt this was

FIGURE 78
DISTRIBUTION OF UNDERGRADUATE ENROLLMENTS FOR WHITES AND HISPANICS BY TYPE AND CONTROL OF INSTITUTION
1986



Source: National Center for Education Statistics.

FIGURE 79
REASONS FOR ATTENDING COLLEGE FOR WHITE, MEXICAN-AMERICAN, AND OTHER HISPANIC FRESHMEN
1986



Source: National College Freshmen Norms. CIRP. Annual.

a very important objective for their lives, compared to 23 percent of whites. For both Mexican-Americans and other Hispanics, however, this objective has declined in importance since 1980.

Both Mexican-Americans and other Hispanic college freshmen are more likely to give greater weight to helping others in need than are white freshmen. In 1986, 68 percent of the Mexican-Americans and 65 percent of other Hispanics reported that this was a very important objective in their lives, compared to 55 percent for white college freshmen. For all three groups, this proportion has declined, particularly since about 1980.

Both Mexican-Americans and other Hispanics differ from whites in the weight they give to organizational rank. Hispanics are more likely than whites to want to be successful in their own business and to have administrative responsibility over others.

Finally, on only one measure did whites give greater importance to an objective in life than did either Hispanic group: to raise a family. In 1986, 68 percent of whites, compared to 67 percent of Mexican-Americans and 64 percent of other Hispanics, cited this as a very important objective in life. The difference is small--and perhaps trivial in magnitude--but reflects the only listed objective where whites give greater weight than blacks, Mexican-Americans, or other Hispanics. For all three groups, however, this objective has been given greater importance by successive generations of college freshmen since 1975.

College Choice

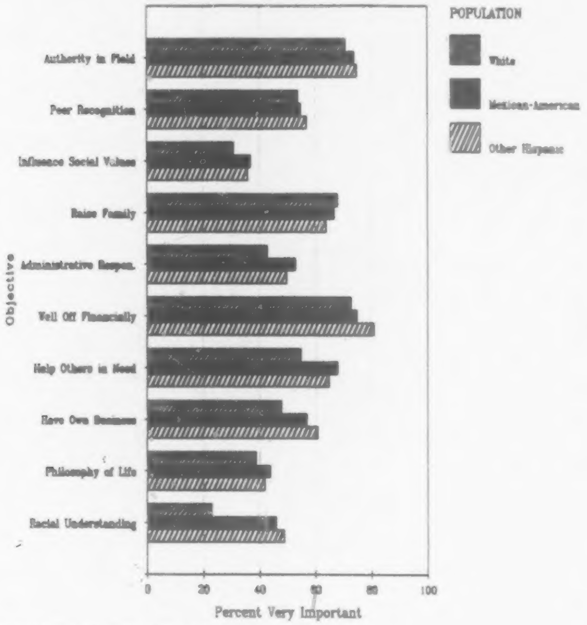
We analyze college choice for Mexican-Americans and other Hispanics in terms of its components: multiple college choices, enrollment in first choice college, and reasons for selecting the college of enrollment. The presentation of results is graphic, compared to non-Hispanic whites, and covers the period of time between 1975 and 1986.

Multiple college choices. A student achieves multiple college choices by applying to and being accepted by more than one college for admission. In our analysis of the National College Freshmen Norms data, we found that Mexican-Americans and other Hispanics behave quite differently in this process, and achieve different results. Mexican-Americans are somewhat less likely than whites to apply to more than one college for admission, while other Hispanics are considerably more likely than whites to make multiple college applications. Both groups report lower college admissions acceptances than whites when they have made multiple college applications. The result is that Mexican-Americans are considerably less likely to have multiple college choices than whites, while other Hispanics have higher multiple college choices than whites. The following paragraphs and charts depict this phenomenon.

In 1986, about 63 percent of all white college freshmen reported on the National College Freshmen Norms survey that they had applied to more than one college for admission. This compares to 58 percent of the Mexican-American population of first-time, full-time college freshmen, and to 78 percent of the other Hispanic college freshmen. Since 1975, these proportions have increased for all three groups of freshmen, as shown in Figure 81.

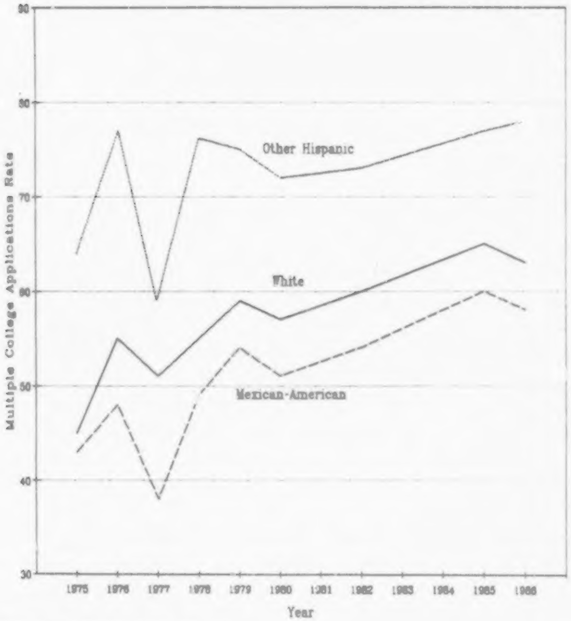
Of those who had applied to more than one college for admission, 90 percent of the white freshmen reported that they had been accepted at more than one college for admission. This compares to 86 percent of the Mexican-American freshmen and 82

FIGURE 80
OBJECTIVES IN LIFE
FOR WHITE, MEXICAN-AMERICAN, AND OTHER HISPANIC FRESHMEN
1986



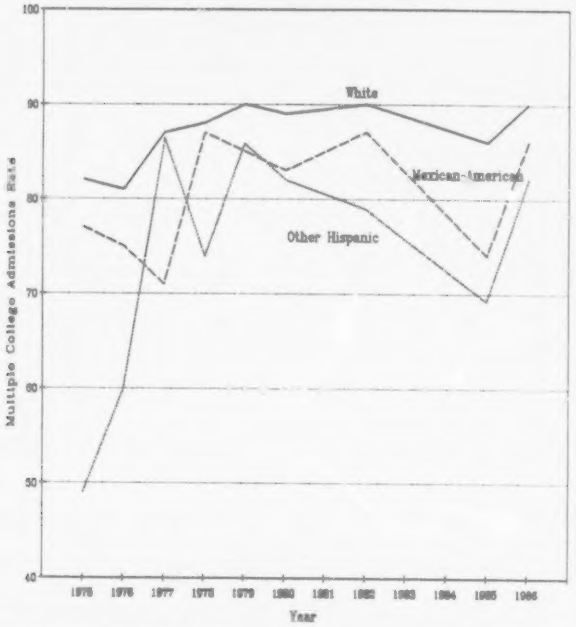
Source: National College Freshmen Norms, CIRP, Annual.

FIGURE 81
MULTIPLE COLLEGE APPLICATION RATES FOR
WHITE, MEXICAN-AMERICAN, AND OTHER HISPANIC FRESHMEN
1975 TO 1986



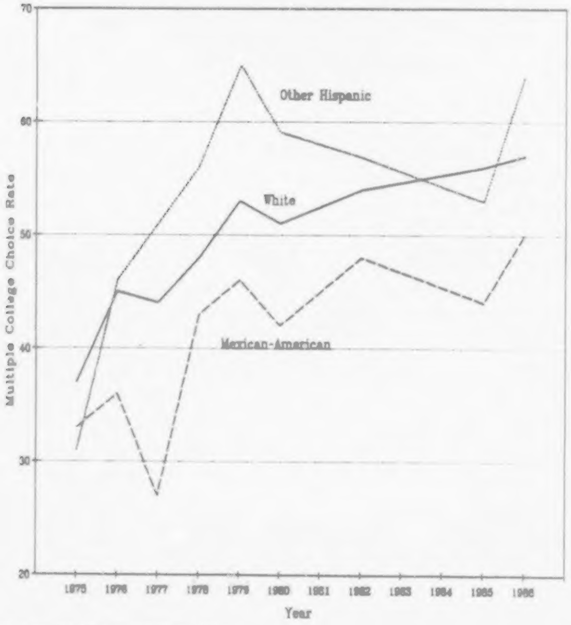
Source: National College Freshmen Norms, CIRP, Annual.

FIGURE 82
MULTIPLE COLLEGE ADMISSIONS RATES FOR WHITE, MEXICAN-AMERICAN, AND OTHER HISPANIC FRESHMEN
1975 TO 1986



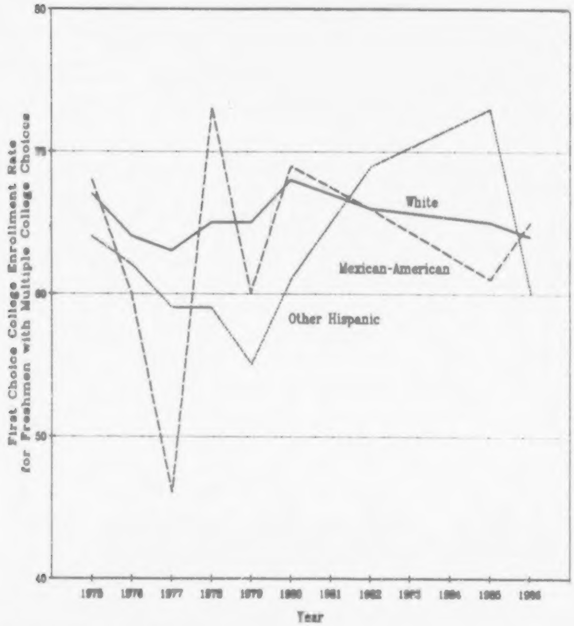
Source: National College Freshman Norms, CIRP, Annual.

FIGURE 83
MULTIPLE COLLEGE CHOICE RATES FOR WHITE, MEXICAN-AMERICAN, AND OTHER HISPANIC FRESHMEN
1975 TO 1986



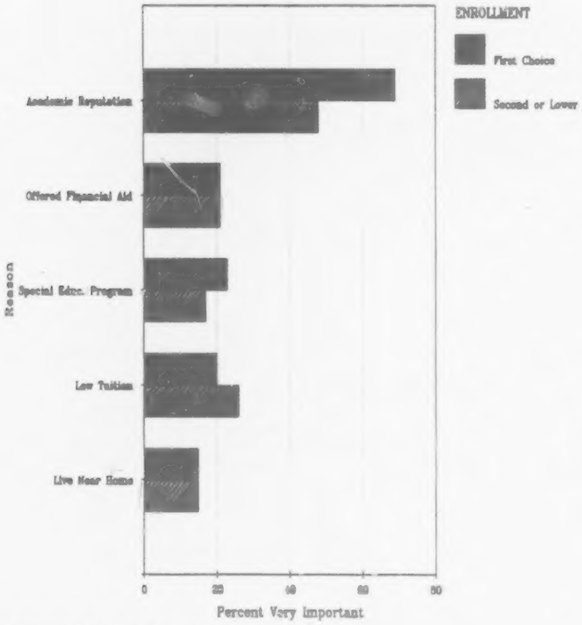
Source: National College Freshman Norms, CIRP, Annual.

FIGURE 84
FIRST CHOICE COLLEGE ENROLLMENT RATES FOR
WHITE, MEXICAN-AMERICAN, AND OTHER HISPANIC FRESHMEN
1975 TO 1986



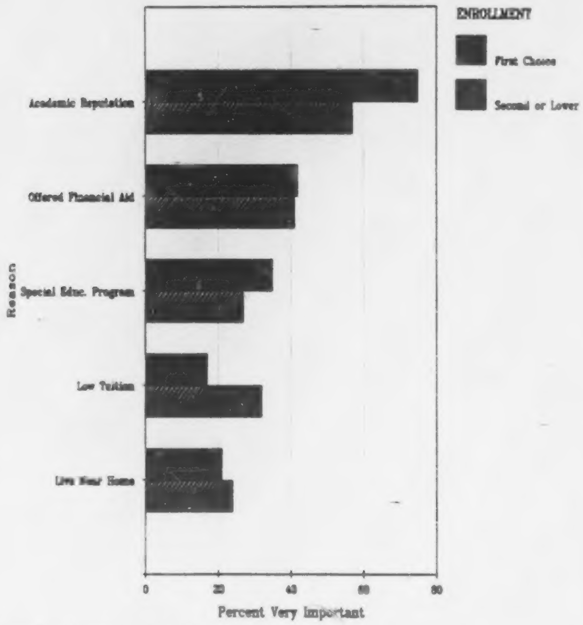
Source: National College Freshmen Norms, CIRP, Annual.

FIGURE 85
REASONS FOR COLLEGE CHOICE FOR WHITES
ENROLLED IN FIRST AND SECOND CHOICE COLLEGES
1986



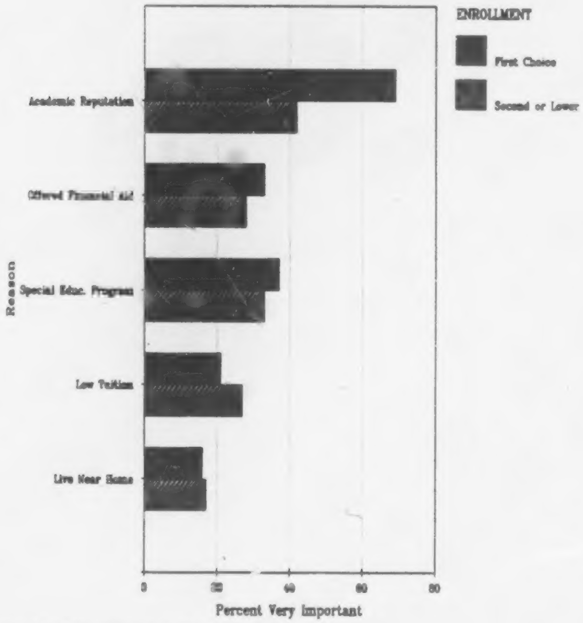
Source: National College Freshmen Norms, CIRP, Annual.

FIGURE 86
REASONS FOR COLLEGE CHOICE FOR MEXICAN-AMERICANS ENROLLED IN FIRST AND SECOND CHOICE COLLEGES
1986



Source: National College Freshmen Norms, CIRP, Annual.

FIGURE 87
REASONS FOR COLLEGE CHOICE FOR OTHER HISPANICS ENROLLED IN FIRST AND SECOND CHOICE COLLEGES
1986



Source: National College Freshmen Norms, CIRP, Annual.

percent of the other Hispanic freshmen. Since 1975 the college acceptance rate at more than one institution has increased for each of the three college freshmen groups, although most of this increase appears to have occurred before 1980. This data is shown in Figure 82.

The product of multiple applications and multiple acceptances is multiple college choices. For white college freshmen in 1986, 57 percent had more than one college to choose from, compared to 50 percent of the Mexican-American freshmen and 64 percent of the other Hispanic freshmen. For both Hispanic groups, the proportion of college freshmen facing multiple college choices increased very substantially between 1975 and about 1980, and has remained at about that level through 1986. For white freshmen, on the other hand, the proportion facing multiple college choices has continued to increase during the 1980s. These data are shown in Figure 83.

Enrollment in first choice college. For those freshmen who have faced multiple college choices, how do enrollment rates in first choice colleges compare across groups and over time? Here, the National College Freshmen Norms data present a less clear picture. In 1986, 64 percent of the non-Hispanic white freshmen who had faced multiple college choices reported that they were enrolled in their first choice college, compared to 65 percent of the Mexican-American freshmen and 60 percent of other Hispanic freshmen. Roughly two freshmen out of three who had multiple college choices enrolled in their first choice college. One out of three enrolled in a second or lower choice college.

The first choice enrollment rates of white, Mexican-American, and other Hispanic college freshmen for the years between 1975 and 1986 are shown in Figure 84. For Mexican-Americans, the results are simply too mixed to be definitive in making a comparison with whites. For other Hispanics, however, the overall pattern is clear. Other Hispanics are less likely than non-Hispanic whites to enroll in their first choice college when they face multiple college choices. The difference between the white and other Hispanic first choice enrollment rates widened between 1975 and 1979, and has narrowed since then.

Reasons for college of enrollment. White non-Hispanics, Mexican-Americans, and other Hispanics all gave as the primary reason for enrollment the academic reputation of the college. This is true for both those who were enrolled in their first choice college and those who were enrolled in their second choice college.

The difference between those who are enrolled in the first choice institution and those who are enrolled in their second or lower choice college on the question of academic reputation is striking. For whites, Mexican-Americans, and other Hispanics, the loss of first choice appears to result in the student's loss of appreciation for the academic reputation of the college where he or she ultimately is enrolled. This same difference occurs in appreciation for special educational programs sought by freshmen. When a student has enrolled in his second or lower choice college, there is a loss of appreciation for the academic characteristics available there.

Beyond this universal commitment, important insights are gained from examining patterns of responses given by those enrolled in first choice colleges and those enrolled in second or lower choice colleges. As shown in Figures 85 to 87, Mexican-Americans differ from whites and other Hispanics in the importance given to the offer of financial aid, for both Mexican-Americans enrolled in their first choice college and those enrolled in their second or lower choice college. While roughly 20 percent of white freshmen cite this as a very important factor in their enrollment in their current college, more than 40 percent of the Mexican-American freshmen cited this reason.

More universal than financial aid is the apparent effect of low tuition on enrollment in a second or lower choice college. Among all three groups, low tuition appears to be more important to freshmen enrolled in their second or lower choice college than it is to freshmen enrolled in their first choice college. Among all three groups, low tuition and being able to live near home are more important among those enrolled in their second or lower choice college than among those enrolled in their first choice college.

College choice for Hispanics shows mixed results. Mexican-Americans are less likely than whites to make multiple college applications, and those that do are less likely than whites to be accepted at the colleges where they have applied. The result is that fewer Mexican-Americans have fewer multiple college choices than do non-Hispanic whites. However, over time Mexican-Americans who have addressed multiple college choices report that they are just about as likely as whites to have enrolled in their first choice college. Two out of three Mexican-American freshmen that had multiple college choices enrolled in their first choice college, while one out of three enrolled in the second or lower choice college. When we examine Mexican-Americans' reasons for enrolling where they were, academic reputation of the institution stands out in importance. But this is true for any group entering college. Where Mexican-Americans differ from other groups is the importance attached to the offer of financial aid, regardless of whether they had enrolled in their first or second choice college. Among those who were enrolled in their second or lower choice college, low tuition stood out as a very important factor in their enrollment choice. For the Mexican-American population, financial aid clearly plays a major role in college choice.

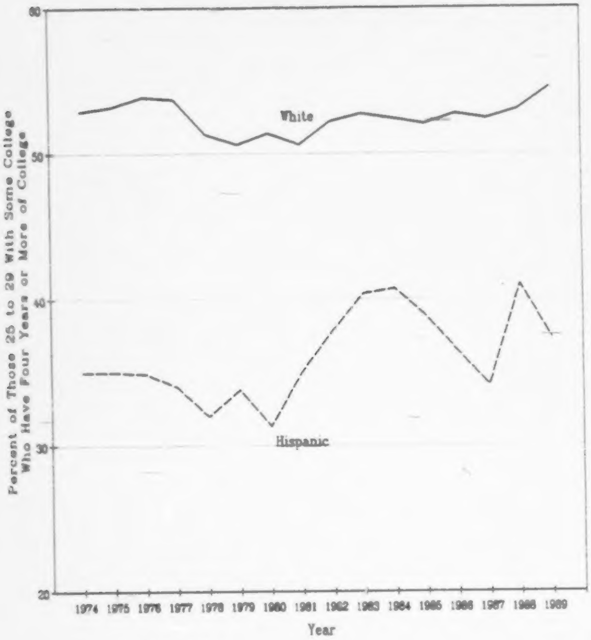
Other Hispanics resemble non-Hispanic whites in their college choice behaviors. They are far more likely than whites to make multiple college applications, less likely than whites and Mexican-Americans to be admitted by colleges, and as a result have a somewhat greater number of multiple college choices than whites. Their likelihood of enrolling in the first choice college given multiple college choices was below that of whites between 1975 and 1981, but between 1982 and 1985 they were more likely than whites to enroll in their first choice college. Other Hispanics shared with all other groups a strong appreciation for the academic reputation of the institution where they were enrolled, particularly if the college was their first choice. The availability of special educational programs was next in importance. When other Hispanic freshmen were enrolled in their second or lower choice college, low tuition became more important than it was to freshmen enrolled in their first choice institution.

College Completion

We examine college completion for Hispanics as we have for women and blacks, by reviewing the 25 to 29 year old population that has at least started college and calculating the proportion of this population that has completed four or more years of college. While these data are available for whites for a longer period, the Hispanic data were first reported by the Census Bureau in 1974 and have been published through 1987.

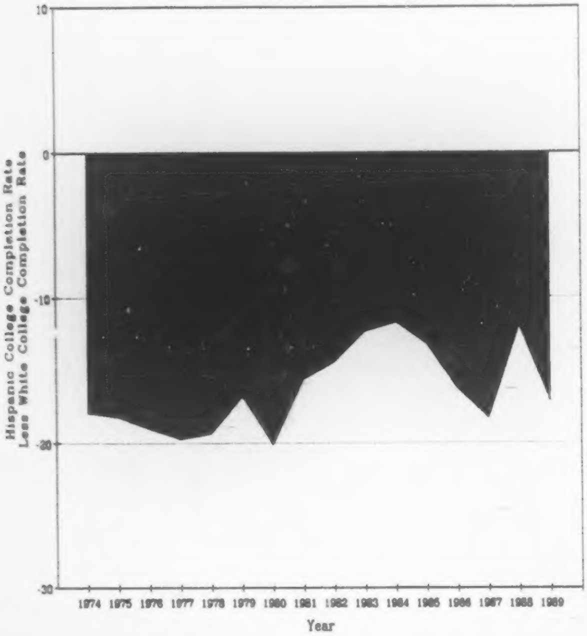
Figure 88 shows the college completion rates for whites and Hispanics age 25 to 29 for the period 1974 through 1989. The rate for whites has been quite consistent and flat in the range of 51 to 54 percent. The rate for Hispanics--plotted as a moving three year

FIGURE 88
COLLEGE COMPLETION RATES
FOR WHITES AND HISPANICS AGE 25 TO 29 YEARS
1974 TO 1989



Source: Current Population Survey, Series P-20.

FIGURE 89
COLLEGE COMPLETION RATE GAP
FOR HISPANICS AGE 25 TO 29 YEARS
1974 TO 1989



Source: Current Population Survey, Series P-20.

average--has fluctuated, with an upward trend to the data over the last decade and a half. The difference between the white and Hispanic college completion rates is plotted in Figure 89.

On average those who are 25 to 29 would have graduated from high school about 9 years earlier. Thus, the year, 1984, when the college completion rate for Hispanics peaked at 40.7 percent (Figure 88) corresponds to high school graduation and college entry in the mid 1970s. This corresponds to the peak in college enrollment rate equity for minorities generally (Figures 1 and 2), and Hispanics in particular (Figure 73).

Quite clearly, for all of the years for which we have data to study the issue, the beneficiaries of the national movement to provide equity of higher educational opportunity where those who graduated from high school and entered college shortly thereafter in the mid 1970s. Those who benefited in the time of access equity were ultimately the same group that came to benefit in terms of completion equity.

Field of Study

Since 1977 the National Center for Education Statistics has collected and reported baccalaureate degrees conferred by field of study for Hispanics and other major racial/ethnic groups. The data are available for the years 1977, 1979, 1981, 1985, and 1987.

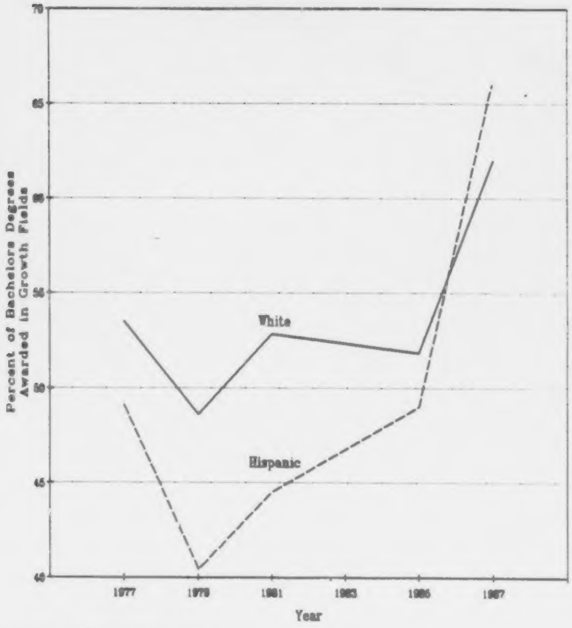
These data are analyzed here in terms of the proportion of degrees earned by Hispanics in fields that were expanding at the time the degrees were awarded. The results are compared to whites. This feature of labor markets--growth--captures the dynamic aspect of labor markets to which labor supplies--graduates--must respond to capture the economic return on a college education that college freshmen tell us is so important to their decisions to enroll in college.

In Figure 90 we see the proportion of baccalaureate degrees earned by whites and Hispanics in expanding academic fields between 1977 and 1987. Between 1979 and 1987, the proportion of degrees awarded to Hispanics in expanding fields of study increased sharply, from about 40 percent to about 66 percent. Partly this was a result of a general expansion of many academic fields preferred by Hispanic students, but more importantly this signaled increase labor market sensitivity by Hispanic undergraduates. In fact until 1987, Hispanic students had consistently lagged behind white students. But by 1987 a larger proportion of Hispanic baccalaureate degrees were earned in growing fields than were earned by white students.

Baccalaureate Degree Attainment

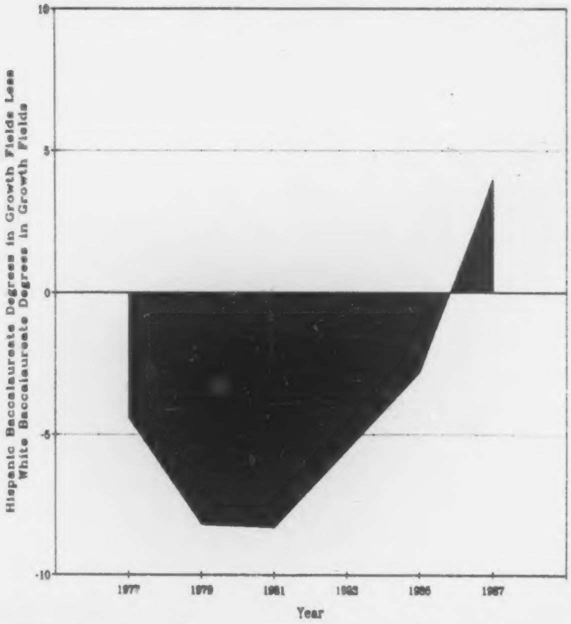
When we approach the bottom line of higher educational degree attainment, our analysis of Hispanic success in higher education is curtailed significantly by the relatively short time period during which high school graduation data has been collected on the Hispanic population. High school graduation data has been reported by the Bureau of Labor Statistics only since 1976, meaning not until 1980 at the earliest could these students have begun receiving their baccalaureate degrees. Baccalaureate degree recipient data by racial/ethnic categories has also been collected and reported only since 1976. Therefore, the earliest date by which the ratio of baccalaureate degree recipients to high school graduates four years earlier could be calculated is 1980.

FIGURE 90
BACCALAUREATE DEGREE CONCENTRATION IN GROWTH FIELDS FOR WHITES AND HISPANICS 1977 TO 1987



Source: National Center for Education Statistics.

FIGURE 91
BACCALAUREATE DEGREE CONCENTRATION GAP IN GROWTH FIELDS FOR HISPANICS 1977 TO 1987



Source: National Center for Education Statistics.

The three years for which the ratio can be calculated are 1981, 1985, and 1987. The ratios for these three years are 14.4 percent, 20.1 percent, and 15.5 percent respectively. No trend is evident in these data yet, although at least one finding results by comparison with the white ratio. For the above three years, the corresponding ratios are 30.6 percent, 30.8 percent, and 31.8 percent. Generally, the college completion rate for Hispanics appears to be about one-half to two-thirds the rate for whites during the 1980s.

Summary

The analysis of higher educational opportunity for Hispanics is curtailed by the limited availability of data to analyze the six components of that opportunity under study here. The data have been collected and reported mostly since the mid 1970s--after the great advances in equity for females and blacks were largely achieved. Moreover, Hispanics include many groups, among which are some more successful than others regarding higher educational participation. While we might wish to focus our analysis on the Mexican-American subgroup among Hispanics, lack of data have not always permitted us to do so.

Mexican-Americans. Despite these limitations, the picture of equity of higher educational opportunity for Hispanics looks mixed. First we must distinguish the behaviors and achievements of Mexican-Americans from other Hispanics. Our analyses reveal that the most serious problems in higher educational preparation and participation are clearly concentrated in Mexican-Americans. At nearly every step in the educational progression, Mexican-Americans fare worse than other Hispanics and non-Hispanic whites.

First, Mexican-Americans are poorly prepared to undertake higher educational study. While 75 to 90 percent of every other group studied eventually earns a high school diploma, only about half of the Mexican-American population ever does. Mexican-American scores on the ACT Assessment are far below those of whites, and well below scores of other Hispanics.

Second, less than 40 percent of those who graduate from high school enroll in college, compared to about 60 percent for whites and other Hispanics. While the college enrollment rates for these latter two groups have increased since 1974, the rate for Mexican-Americans has decreased. Alternatives to college, such as military service and proprietary schools, are not being pursued.

Third, Mexican-Americans are comparatively passive in making multiple applications for college. When they do, they are rejected at a higher rate than are whites. As a result, their college choices are more limited than for whites or other Hispanics. Mexican-Americans do enroll in their first choice college about as often as whites and other Hispanics when they have faced multiple college choices, but their horizons appear to be curtailed compared to these two groups. Financial aid and low tuition appear to be especially important issues in college choice in the Mexican-American freshman population.

Fourth, although our data were limited to Hispanics and not available for Mexican-Americans, college completion rates through four years of study for those who start college are far below rates for whites. Only about 34 percent of Hispanics, compared to 53 percent of all whites, who start college complete four years or more by age 25 to 29. There has been no permanent improvement in these rates for either whites or Hispanics.

Finally, the most recent ratios of baccalaureate degrees awarded to entering freshmen four years earlier suggest that Hispanics are less than half as likely as whites to earn a baccalaureate degree from college.

The educational aspirations of the young Mexican-American population are distinctively different from every other population group examined in this study, including males, females, whites, blacks, other Hispanics, the low income, and the affluent. Uniquely, the Mexican-American population has opted out of the American educational system. While 75 percent to 85 percent of every other group eventually earn a high school diploma or its equivalent, only about half of all Mexican-Americans do. And of those who graduate from high school, unlike every other group studied, a declining proportion choose to continue their studies in higher education.

Most groups in America have responded to the very clear, strong, and persistent signals from the labor market calling for increased levels of educational attainment. The labor market has always rewarded higher levels of education with higher salaries and wages. Since the early 1970s, general economic stagnations has retarded income growth, except for families headed by individuals with advanced levels of education. This phenomenon has become even more pronounced in the 1980s, as constant dollar family incomes have declined sharply for high school dropouts, and family incomes have increased sharply for college graduates. Every population group studied here has responded to these labor market calls by reaching for higher levels of education--except Mexican-Americans.

The choice made by Mexican-Americans to opt out of the educational system cannot be divorced from its material consequences. Mexican-Americans as a group have chosen to position themselves at the very end of the queue of workers seeking the jobs with the highest social status, best working conditions, highest pay, and greatest security. Given the declining relative value of workers who have dropped out of high school or declined the opportunity to pursue a college education, Mexican-Americans have by their own decisions chosen a steadily declining standard of living for themselves, their spouses, and their children, for the remainder of their lives. The communities and states in which they are concentrated will be similarly afflicted.

Other Hispanics. American Hispanics of other than Mexican-American descent appear in the data examined here to be relatively successful in their participation in higher education. Within the constraints of available data, we have observed the following:

First, other Hispanics demonstrate better preparation for college through high school than Mexican-Americans. Other Hispanics score better on the ACT Assessment than do Mexican-Americans--although still well below the scores of non-Hispanic whites--and their scores have shown greater improvement since 1977 than have Mexican-American scores. High school graduation rates have shown some improvement since 1974, are well above those of Mexican-Americans, and tend to increase after high school age years, reflecting an awareness of the importance of educational attainment.

Second, college enrollment rates for other Hispanics who have graduated from high school have historically been well above the rates for whites, and therefore far above Mexican-American college enrollment rates.

Third, other Hispanics have always stood out as aggressive in applying to several colleges for admission. Since 1975, their multiple college application rate has stood at 10 to 15 percent above the non-Hispanic white rate. Their multiple college acceptance rate has historically been lower than for both whites and Mexican-Americans, but the high application rate has resulted in higher multiple college choice rates than for either Mexican-Americans or whites. However, this has not always resulted in especially successful enrollment in first choice colleges. The record here over time is simply uneven compared to whites and Mexican-Americans.

The available data, which do not permit us to examine separately the experiences of Mexican-Americans and other Hispanics beyond this point in general reveal college completion and baccalaureate degree attainment rates far below those of whites.

V. Low Income

Though data on students from low income families are relatively scarce, several findings can be supported. Compared to students from affluent families, low income students

- **are less well prepared to undertake college study,**
- **have enrolled in college at declining rates during the last decade,**
- **have fared badly in all aspects of college choice, and**
- **in general have not set their sights on higher education.**

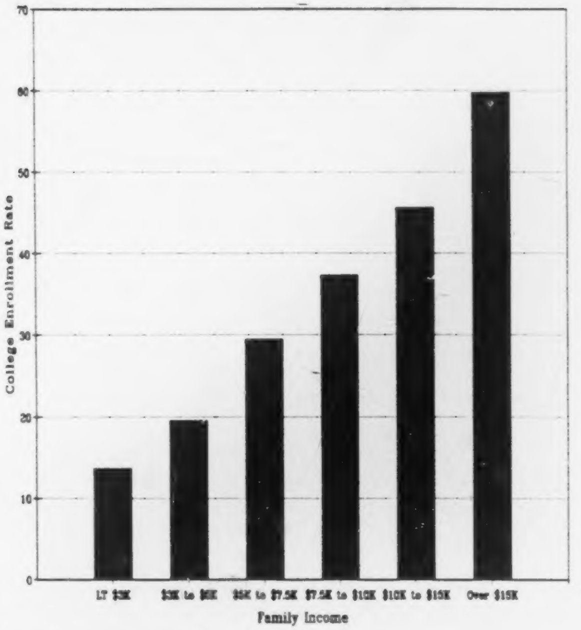
The Higher Education Act of 1965 was one part of President Johnson's War on Poverty. It stressed, for the first time, financial aid eligibility based on financial need. Previous federal student aid programs were based on meeting national manpower needs, rewards for military service, moderating labor force impacts of returning military veterans, or incentives for academically talented youth to further their educations in particular fields of study. Subsequent reauthorizations of the student aid programs contained in Title IV of the Act have reinforced the role of financial need analysis in determining eligibility for most forms of federal student aid. This focus on financial aid eligibility based on demonstrated financial need has carried over into the majority of state and institutional student aid programs as well.

The focus on the needy in student financial aid is clear and explicit, unlike the federal policy concern for equity of higher educational opportunity for women and racial/ethnic groups. Federal student aid forms collect no information on the gender, race, or ethnicity of the aid applicant. Instead, questions on the financial aid application form explore in depth the applicant's ability to contribute to the financing of higher educational costs from his or her own or family resources.

In its 1971 review of the performance of the Higher Education Act of 1965, Congress found the accomplishments of the Educational Opportunity Grant Program wanting. A finding reported by the Senate Committee on Labor and Public Welfare is the chart in Figure 92. The probability of family members ages 18 to 24 being enrolled in college in 1970 was related directly to family income. For individuals from families with incomes in 1970 of less than $3000 per year, the proportion enrolled in college was 13.7 percent. However, if individuals came from families with incomes of $15,000 or more per year, the proportion enrolled in college was 59.8 percent. Expressed another way, individuals from high income families were more than four times more likely to be enrolled in college than were individuals from low income families.

Despite the clear focus in student financial aid on the financially needy, an analysis of their participation in American higher education over time is difficult and infrequently attempted. Comprehensive, in-depth, current data bases for the study of higher educational participation by those from lower income backgrounds do not exist. The data bases that do exist include the Current Population Survey, the National College Freshmen Norms, and High School and Beyond. All have deficiencies that limit their usefulness in the study of questions addressed here.

FIGURE 92
COLLEGE ENROLLMENT RATES OF FAMILY MEMBERS
18 TO 24 YEARS OLD BY FAMILY INCOME
1970



Source: Senate Committee on Labor & Public Welfare, 1971.

Despite the limitations, we will try to describe higher educational opportunity that addresses issues of comparative equity in the manner used to study the participation of women, blacks, and Hispanics in American higher education over the last several decades. Where our study does not parallel the three previous sections, it is for lack of data not lack of interest in examining important issues.

Definition of Poverty

In this paper, low income are those who live below the poverty threshold defined in terms of money income and family size. This definition excludes noncash benefits such as food stamps, medicaid, and subsidized housing. The following table shows the poverty thresholds for families of different sizes. Poverty thresholds since 1959 are summarized in the Appendix.

At different points in this section, we will compare the higher educational preparation, attitudes, and participation of the low income to individuals from higher family income backgrounds. The low income are those at or below the poverty level. Above this level of definition, groups are less precisely defined. Where we can control for both family size and income, "modest" family is defined as having family income of from 101 percent to 199 percent of the poverty level. The "affluent" family is defined as having a family income of 200 percent or more of the poverty level for a given family size. Where we cannot control for family size, other definitions are uses such as quartiles of the family income distribution for unmarried high school graduates.

TABLE 7
Weighted Average Poverty Levels for Families and Unrelated Individuals
1987

Family Size	Money Income
1 person (unrelated individual)	$5778
Under 65 years	5909
65 years and over	5447
2 persons	7397
Householder under 65 years	7641
Householder over 64 years	6872
3 persons	9056
4 persons	11,611
5 persons	13,737
6 persons	15,509
7 persons	17,649
8 persons	19,515
9 or more persons	23,105

Source: Census Bureau, Current Population Reports, P-60, No. 161.

Preparation for College

In previous analysis of preparation for higher education by gender and race/ethnicity, we examined data on test score performance and high school graduation rates. The National Assessment of Educational Progress has not reported its test score results by family income almost certainly because test-takers in elementary and secondary education are unlikely to know what their family income is. Despite such limitations, we attempt here a description of the qualitative and quantitative preparation of high school students for college admission.

Academic preparation. As presented earlier, academic test scores vary by gender, race, and ethnicity. One might reasonably expect test score results to vary by income as well. Table 8 shows the relationship between family income and ACT Assessment score for college-bound high school seniors between 1986 and 1989.

ACT Assessment scores are clearly correlated with family income. The mean ACT Composite Score ranged from a low of 14.2 for students reporting family incomes of less than $6000 per year to 22.3 for those from family incomes of more than $60,000 per year in 1990. Unfortunately, the family income data changes meaning from year to year due to inflation, change in family size, etc., and the ACT data were changed in 1990 so that 1990 scores are not comparable to prior year scores. Thus, we are unable to determine changes in how well high school students from different family income backgrounds have performed on the ACT Assessment over time.

However, the ACT Assessment also collects information from students on the courses they take in high school in preparation for college. From previous ACT studies

TABLE 8
Mean ACT Composite Score for College-Bound High School Seniors
1986 to 1990

Family Income	1986	1987	1988	1989	1990*
Less than $6000	14.6	14.7	14.6	14.2	17.4
$6,000-11,999	16.4	16.4	16.3	16.0	18.6
$12,000-17,999	17.7	17.6	17.5	17.2	19.4
$18,000-23,999	18.4	18.2	18.1	17.8	19.9
$24,000-29,999	18.9	18.7	18.6	18.4	20.4
$30,000-35,999	19.3	19.1	19.0	18.8	20.7
$36,000-41,999	19.7	19.5	19.4	19.2	21.0
$42,000-49,999	20.3	20.0	19.9	19.7	21.4
$50,000-59,999	20.6	20.3	20.2	20.1	21.7
$60,000 and over	20.9	20.7	20.8	20.7	22.3
Average	18.8	18.7	18.7	18.6	20.6

Source: The American College Testing Program, High School Profile Report, annual.
*ACT Assessment revised and using new score scaling.

of high school course taking and performance on the ACT Assessment we know that more high school courses in a given subject area lead to higher subtest scores (Laing, Engen, and Maxey, 1987). This finding has led ACT to distinguish ACT Assessment scores for students completing a college preparatory curriculum by the time they leave high school, to scores for other students who did not complete this curriculum. ACT defines the college preparatory curriculum to include four years of English, and three years each of mathematics, social studies, and natural sciences. In the aggregate the test scores of those completing the college preparatory curriculum in high school are about three points higher than those who do not complete this curriculum, and less than half of all college-bound high school seniors who take the ACT complete this curriculum in high school.

For the purposes of this study, we are particularly interested in the proportion of high school students taking the ACT Assessment who complete the college prep curriculum by the level of their family income backgrounds. Table 9 summarizes this data for 1990 college-bound high school seniors.

Table 9 offers important evidence for our later understanding of success in college. First, only about a third of the college-bound high school seniors from the lowest family income backgrounds have completed the college preparatory curriculum in high school. This compares to over half of those from the highest family income intervals. Thus, students from low family income backgrounds are less likely to be prepared academically to take advantage of the collegiate experience than are their more affluent peers.

Second, between 1987 and 1990 the largest increase in the proportion of college-bound high school seniors completing the college preparatory curriculum was in the highest family income interval--over $60,000 per year--while the smallest increase was

TABLE 9
Proportion of College-Bound High School Seniors Completing College Preparatory Curriculum in High School by Family Income, 1987, 1989, and 1990

Family Income	1987	1989	1990	Change: 1987 to 1989
Less than $6000	27.4%	34.0%	35.7%	+ 8.3%
$6,000-11,999	30.3	38.3	39.9	+ 9.6
$12,000-17,999	32.7	40.1	42.2	+ 9.5
$18,000-23,999	35.1	42.2	44.6	+ 9.5
$24,000-29,999	36.4	44.3	46.2	+ 9.8
$30,000-35,999	38.2	45.8	48.0	+ 9.8
$36,000-41,999	40.1	47.5	49.4	+ 9.3
$42,000-49,999	42.6	50.1	52.2	+ 9.6
$50,000-59,999	44.0	52.1	54.1	+10.1
$60,000 and over	47.2	55.8	58.4	+11.2
Total	37.9	46.1	48.4	+10.5

Source: The American College Testing Program.

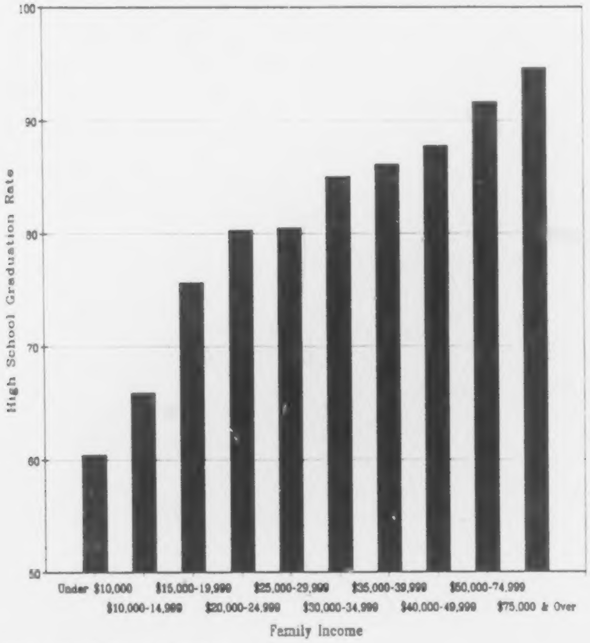
in the bottom family income interval--less than $6000 per year. During this three year period, those from lowest family income backgrounds fell even further behind those most affluent in terms of preparing for college through high school course selection.

Our measures of academic preparation for college by the family income backgrounds of high school students are clear and consistent. Students from low family income backgrounds are less likely than are students from high family income backgrounds to have completed a college preparatory curriculum in high school. The test scores used in selective admissions and course placement by colleges are lower for students from low family income backgrounds than they are for students from high family income backgrounds. A considerable portion of the difference in test scores between family income levels is attributable to differences in the course taking patterns of high school students.

High school graduation. The Current Population Survey collects and reports data that make possible useful examinations and comparisons of high school graduation rates by family income level at any one point in time. Figure 93 shows high school graduation rates for 18 to 24 year olds by family income levels for 1989. The proportion of high school graduates in the population in each family income interval ranges from 60 percent in families with less than $10,000 in annual income to 95 percent in families with more than $75,000 per year incomes. The correlation between family income and probability of high school graduation for 18 to 24 year old family members is strikingly high.

Because of the strong relationship between family income and high school graduation rates shown in Figure 93, we have extended our analysis to gender and racial/ethnic comparisons in Figures 94 and 95. Males age 18 to 24 are less likely to be high school graduates than females at any income level, but particularly when they come from

FIGURE 93
HIGH SCHOOL GRADUATION RATES BY FAMILY INCOME
FOR DEPENDENT FAMILY MEMBERS AGE 18 TO 24 YEARS
1989



Source: Current Population Survey, unpublished data.

family incomes below $30,000 per year. Above about $50,000 in family income, males are nearly as likely as females to be high school graduates. These data are shown in Figure 94.

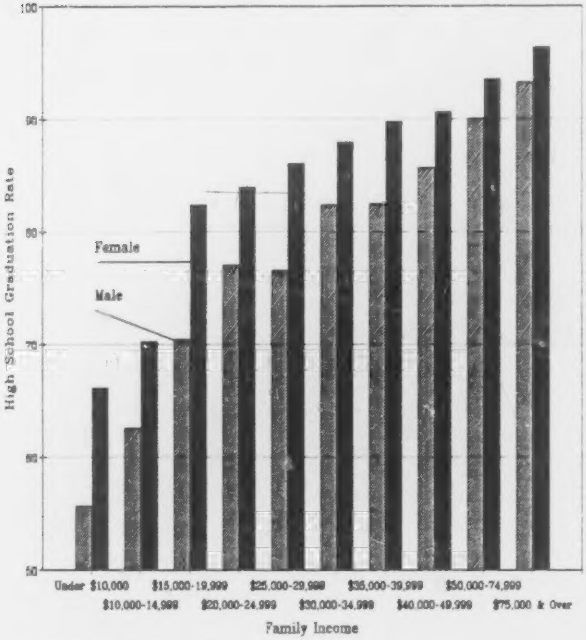
The high school graduation probabilities by family income can also be calculated for whites, blacks, and Hispanics, as shown in Figure 95. The graph suggests that through about $15,000 in family income, blacks are more likely than whites to graduate from high school. Above $35,000, the opposite is true.

Another perspective on high school graduation rates for young adults by family income backgrounds is shown in Figure 96 which covers the last twenty years. Here, due to the nature of the data reported in the Current Population Survey, we have calculated high school graduation rates for unmarried 18 to 24 year olds by quartiles of the distribution of family income. In this section, we will use the quartile system to describe trends in educational opportunity, participation, and attainment. For reference, the quartile definitions in 1989 were the following:

Bottom quartile:	$0 to $20,017
Second quartile:	$20,018 to $35,447
Third quartile:	$35,448 to $58,125
Top quartile:	Over $58,125

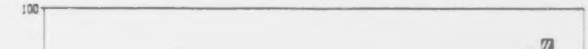
Each quartile consists of an equal number of unmarried high school graduates age 18 to 24 years.

FIGURE 94
HIGH SCHOOL GRADUATION RATES BY GENDER AND FAMILY INCOME FOR DEPENDENT FAMILY MEMBERS AGE 18 TO 24 YEARS
1989



Source: Current Population Survey, unpublished data.

FIGURE 95
HIGH SCHOOL GRADUATION RATES BY RACE/ETHNICITY AND FAMILY INCOME FOR DEPENDENT FAMILY MEMBERS AGE 18 TO 24 YEARS
1989



Source: Current Population Survey, unpublished data.

High school graduation rates by family income quartiles have been quite consistent over the last twenty years. The graduation rate has been about 93 percent in the top quartile, 90 percent in the third quartile, 83 percent in the second quartile, and about 64 percent in the bottom quartile. The trends have been virtually flat in the top three quartiles over the last two decades.

However, in the bottom quartile there has been a small but significant increase in high school graduation rates over this period of time. This increase is all the more significant due to the effects of inflation: the upper income limit for the bottom quartile is lower in 1989 than it was in 1970 in constant dollars. This is a reflection of the redistribution of personal and family incomes in the United States since the early 1970s: there are now more affluent and low income, and fewer middle income individuals and families, than there were in 1970.

The difference between the top and bottom quartile high school graduation rates is shown in Figure 97. This is our equity measure, and reflects a narrowing in the high school graduation rate gap over the last twenty years. Between 1970 and 1989, the gap closed from 31.5 percent to 28.2 percent. Converted to people, this meant that there were 145,000 more unmarried 18 to 24 year old high school graduates from the bottom quartile of the family income distribution in 1989 compared to 1970 rates.

Access to College

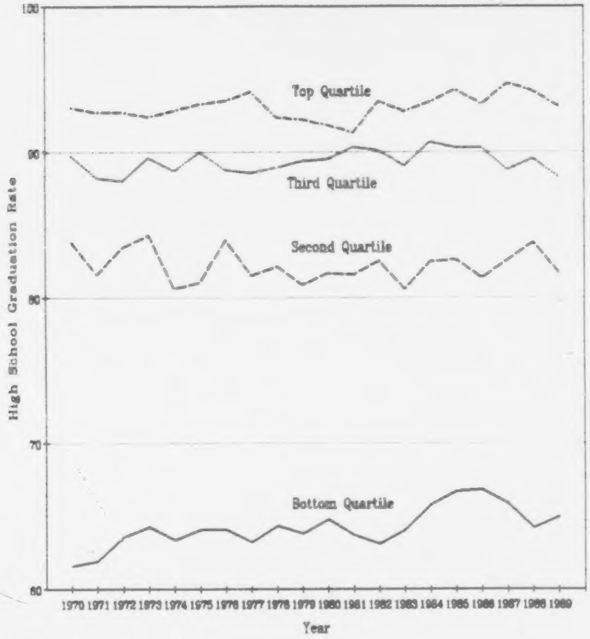
College participation for unmarried 18 to 24 year old high school graduates includes current enrollment, no longer enrolled but having completed one to three years of college, and no longer enrolled but having completed four or more years of college, according to Census Bureau definitions. Because many individuals may delay their entry into college for a while following high school graduation (which itself may have a delay component to it), we will use this broader measure of college participation to examine who goes on to college after high school graduation and who does not.

College participation rates from the four family income quartiles are summarized in Figure 98. The pattern here is similar to the pattern for high school graduates. There is a strong, consistent relationship between family income and college participation. The rate at which unmarried 18 to 24 year old high school graduates participated in college in 1989 ranged from 45 percent of those from the bottom quartile of family income, to 78 percent of those from the top quartile. The advantage of greater family income evident in high school graduation rates is present again in college participation rates, and thus magnifies its advantage in the process of educational attainment. We will return to this point in the concluding section to the paper.

The difference between the college participation rates from the top and bottom quartiles of the family income distribution is summarized in Figure 99. The college participation rate gap closed between 1970 and 1979, from 33 percent in 1970 to 23 percent in 1979. Converted to people, the closing of the college participation rate gap meant that by 1979, 288,000 more high school graduates from the bottom quartile had participated in college compared to 1970.

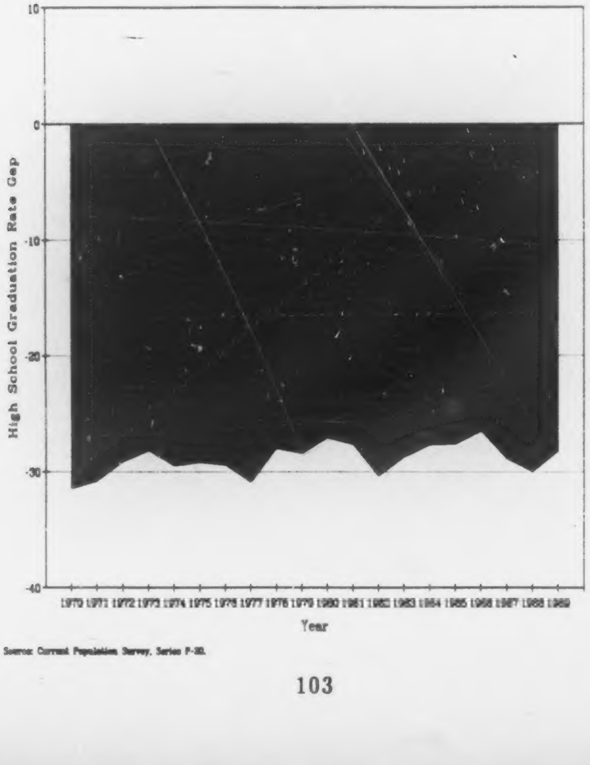
After 1979 a completely different picture emerges. Between 1979 and 1987 the college participation rate gap between the top and bottom quartiles reopened. By 1987 the difference in the college participation rates was greater than it had been since the

FIGURE 96
HIGH SCHOOL GRADUATION RATES BY FAMILY INCOME QUARTILES FOR UNMARRIED 18 TO 24 YEAR OLDS
1970 TO 1989



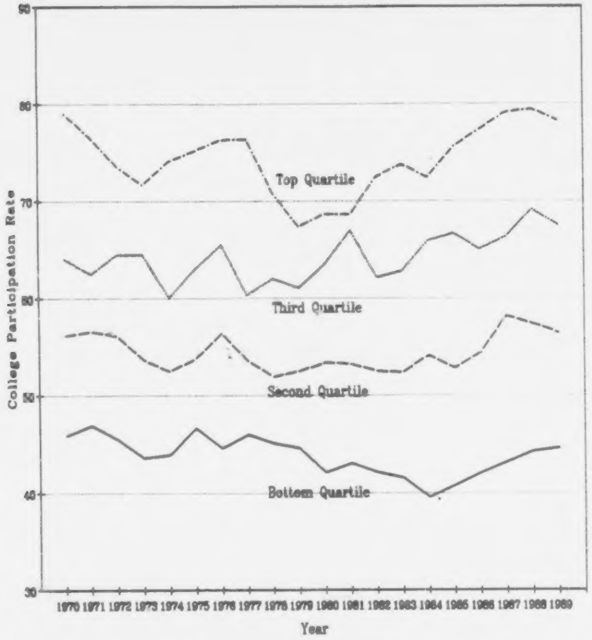
Source: Current Population Survey, Series P-20.

FIGURE 97
HIGH SCHOOL GRADUATION RATE GAP FOR BOTTOM QUARTILE OF FAMILY INCOME FOR UNMARRIED 18 TO 24 YEAR OLDS
1970 TO 1989



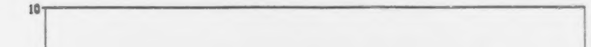
Source: Current Population Survey, Series P-20.

FIGURE 98
COLLEGE PARTICIPATION RATES BY FAMILY INCOME QUARTILES FOR UNMARRIED 18 TO 24 YEAR OLD HIGH SCHOOL GRADUATES
1970 TO 1989



Source: Current Population Survey, Series P-20.

FIGURE 99
COLLEGE PARTICIPATION RATE GAP FOR BOTTOM QUARTILE OF FAMILY INCOME FOR UNMARRIED HIGH SCHOOL GRADUATES
1970 TO 1989



Source: Current Population Survey, Series P-20.

Census Bureau began reporting the data in 1970. For the last five years the gap has been greater than at any time during the last two decades despite the increase in the college participation rate in the bottom family income quartile during this same period of time.

Reasons for attending college. The National College Freshmen Norms files provide some insight into the reasons provided by enrolled college freshmen for attending college. We present a summary of our analysis of the 1986 data in Figure 100. This chart strongly suggests that motivations of enrolled college freshmen to attend college vary little across family income levels. College freshmen from low income families share with freshmen from higher income levels nearly identical interests and emphases on these interests in choosing to attend college.

Not surprisingly, college freshmen from poverty level family income backgrounds are somewhat more likely than their affluent brethren to cite as very important each of the four reasons for attending college. Given the economic hurdles they had to overcome to be enrolled in college, a higher level of motivation to attend college seems to be a reasonable interpretation of this finding.

Objectives in life. College freshmen from low income families have similar objectives in life to freshmen from modest and affluent family income backgrounds. As shown in Figure 101, measures of economic and social status are nearly equally important to low income and affluent alike.

Several differences, however, are worth noting. First, the affluent are more likely than the low income to believe raising a family is very important to their lives. Second, promoting racial understanding and helping others in need are somewhat more important to the low income than they are to the affluent. These differences, while interesting, should not detract from the most obvious finding that the low income and affluent share quite similar objectives for their lives.

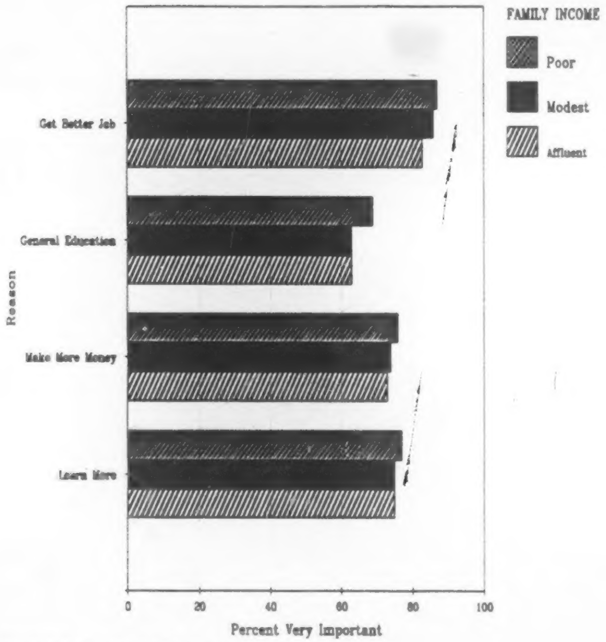
College Choice

The analysis of college choice for low income students presented here follows the format used for the studies of choice by females, blacks, and Hispanics. College choices are created when students make application to more than one college for admission, and are accepted by more than one college to which they have applied. Those who accomplish both have multiple colleges from which to enroll.

Multiple college choices. Students from low income families are somewhat less likely than students from affluent families to apply to more than one college for admission. In 1986, 66 percent of the low income students applied to more than one college for admission, compared to 69 percent of the students from affluent families. Between 1978 and 1986, the rate at which they applied to more than one college for admission increased by 6 percent compared to a 9 percent increase for affluent students.

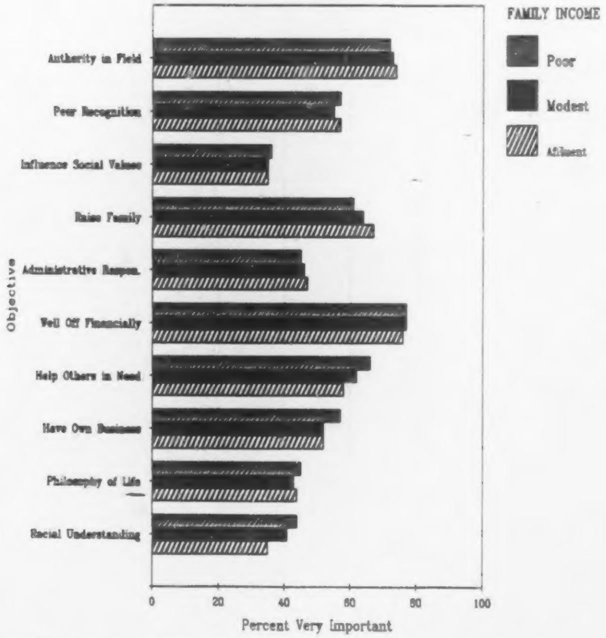
Among those who do apply to more than one college for admission, low income students are less likely than affluent students to be accepted by more than one college for admission. In 1986, 86 percent of the low income students who had applied to more than one college for admission reported that they had been accepted by more than one college, compared to 90 percent of the affluent students. Between 1978 and 1986, the college acceptance rates for both low income and affluent students increased by 3 percent.

FIGURE 100
REASONS FOR ATTENDING COLLEGE
FOR FRESHMEN BY FAMILY INCOME LEVEL
1986



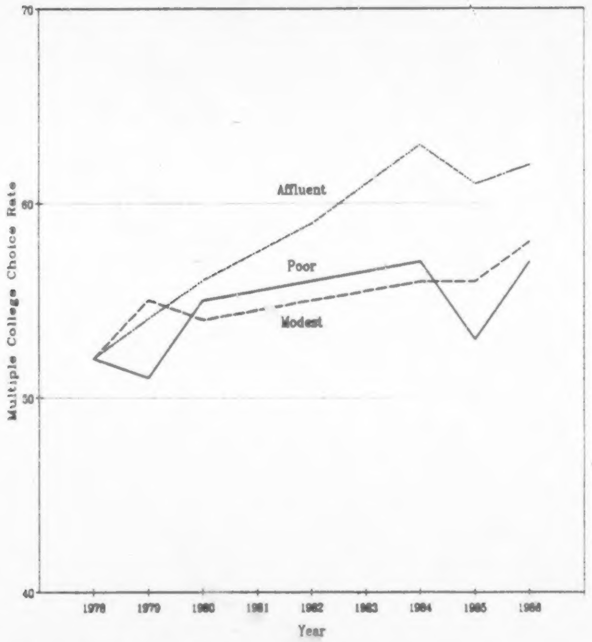
Source: National College Freshmen Norms, CIRP, Annual.

FIGURE 101
OBJECTIVES IN LIFE
FOR FRESHMEN FROM DIFFERENT FAMILY INCOME LEVELS
1986



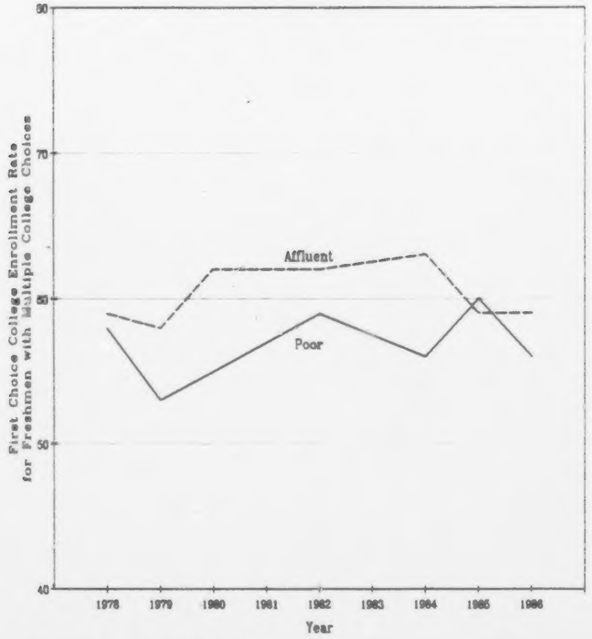
Source: National College Freshmen Norms, CIRP, Annual.

FIGURE 102
MULTIPLE COLLEGE CHOICE RATES FOR FOR FRESHMEN BY FAMILY INCOME LEVEL
1978 TO 1986



Source: National College Freshmen Norms, CIRP, Annual.

FIGURE 103
FIRST CHOICE COLLEGE ENROLLMENT RATES FOR FRESHMEN BY FAMILY INCOME LEVEL
1978 TO 1986



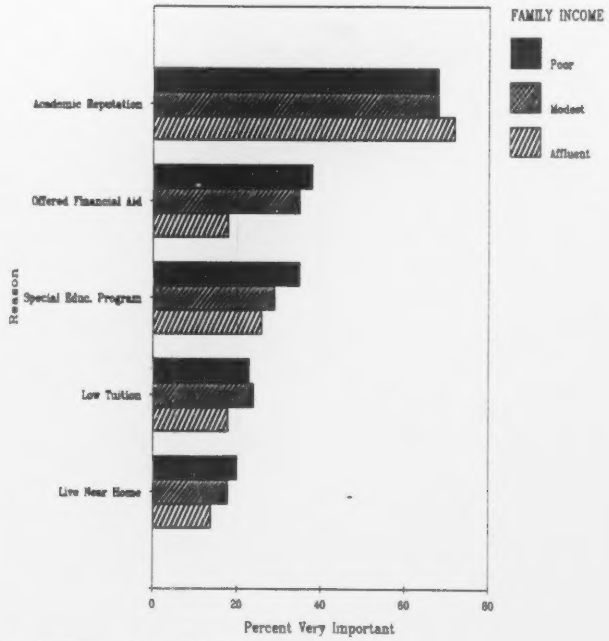
Source: National College Freshmen Norms, CIRP, Annual.

The product of these conditions yields a third condition: low income students are less likely to have multiple college choices. By 1986, 57 percent of the low income students had multiple college choices, compared to 62 percent of the affluent students. Both groups had multiple college choice rates of 52 percent in 1978, as shown in Figure 102.

Enrollment in first choice college. As one would expect, affluent students are more likely than low income students to enroll in their first choice college, but not by a wide margin. Between 1978 and 1986, low income students who faced multiple college choices were about 3 to 4 percent less likely than affluent students to enroll in their first choice college. This is shown in Figure 103.

Reasons for enrollment in college of choice. The National College Freshmen Norms data enable us to pursue reasons why students chose their current institution. We examine here the responses of freshmen from low income, modest, and affluent family income backgrounds who had faced multiple college choices and were enrolled in their first choice college. The results of the analysis are presented in Figure 104.

FIGURE 104
REASONS FOR COLLEGE CHOICE BY FAMILY INCOME LEVELS
FOR FIRST CHOICE COLLEGE ENROLLMENT
1986



Source: National College Freshmen Norms, CIRP, Annual.

College freshmen from low income families differ from freshmen from affluent families in several important ways when it comes to choosing a college. First, affluent freshmen are more likely than low income freshmen to be concerned about the academic reputation of the institution, although both groups give far greater weight to this institutional feature than any other influence on their decisions. On the other hand, low income freshmen are more likely than affluent freshmen to be concerned about the offering of special educational programs.

More importantly, however, is the difference in the importance of the offer of financial aid. Low income freshmen are more than twice as likely to cite the offer of financial aid as a very important reason for selecting the institution where they were enrolled than do affluent freshmen. In 1986, 38 percent of the low income freshmen, compared to 18 percent of the affluent freshmen, cited this as a very important reason in their decision to enroll in their first choice college. Between 1978 and 1986, this difference has held nearly constant between 17 and 24 percent. However, for both groups, the institutional offer of financial aid has become very important to a larger share of freshmen from both low income and affluent family income backgrounds.

Highest degree planned. Students from different family income backgrounds differ in their plans for educational attainment. College freshmen from low income family backgrounds are less likely to aspire to a bachelor's or higher degree than are students from modest family backgrounds. Freshmen from affluent backgrounds are more likely to aspire to at least a four year degree than either lower family income freshman group. These data are shown in Figure 105 for the years 1978 through 1986.

Between 1978 and 1980, the gap between low income and affluent freshmen's degree aspirations widened sharply, as shown in Figure 106. However, this difference has not shifted significantly between 1980 and 1986.

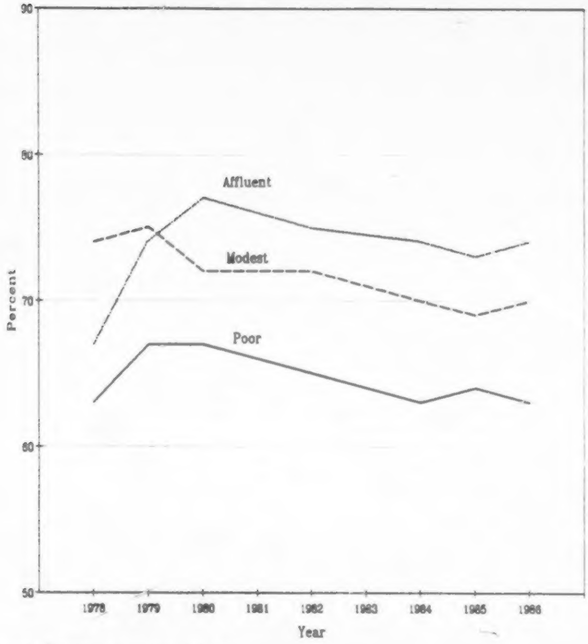
Institutional enrollments. Another way to examine college choice for very low income students is to examine their distribution across colleges by type and control (where type and control are proxies for attendance costs). Table 10 shows the distribution, and redistribution, of college freshmen from poverty level backgrounds across higher educational institutions between 1978 and 1986.

The notable finding from this table is the shift in the distribution of students from poverty income backgrounds away from universities and into two-year and four-year colleges. This shift occurred mainly between 1982 and 1986. There appears to be virtually no shift between public and private institutions, at least in the aggregate. This may suggest that institutional recruiting and admissions policies have played a role in the observed redistribution of students from low income backgrounds.

Baccalaureate Degree Completion

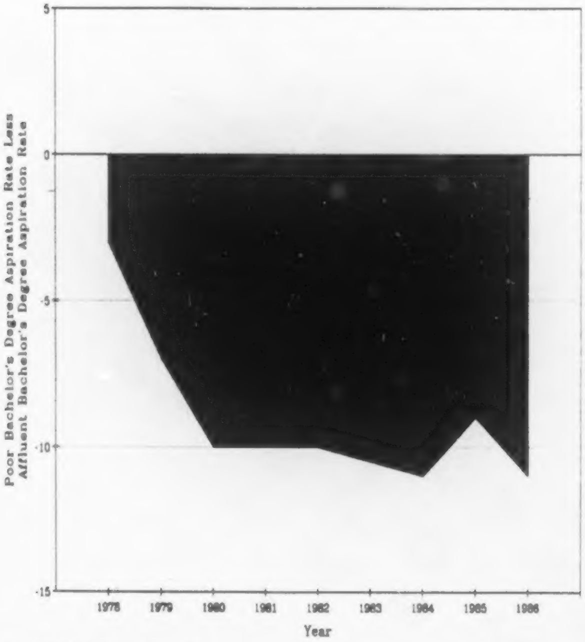
We may examine the proportion of those from different family income backgrounds who enter college that obtain a baccalaureate degree by age 24 from the 1980 High School and Beyond study. In this study the high school graduating class of 1980 was followed through the spring of 1986. Of those who started college from this group--not necessarily in 1980--the proportion from each family income interval that had received a baccalaureate degree by the spring of 1986 are shown in Figure 107. The baccalaureate degree completion rates range from 21 percent of those who 1980 family incomes were

FIGURE 105
HIGHEST DEGREE PLANNED IS BACHELOR'S OR GREATER FOR FRESHMEN FROM DIFFERENT FAMILY INCOME LEVELS
1978 TO 1986



Source: National College Freshmen Norms, CIRP, annual.

FIGURE 106
HIGHEST DEGREE PLANNED IS BACHELOR'S OR GREATER GAP FOR POOR COLLEGE FRESHMEN
1978 TO 1986



Source: National College Freshmen Norms, CIRP, annual.

TABLE 10
Distribution of Poverty Level American College Freshmen by Level and Control of Institution 1978 to 1986

	1978	1979	1980	1982	1984	1985	1986
Two Year Colleges							
Public	37.4%	33.9%	32.0%	36.0%	34.8%	34.4%	39.7%
Private	2.9	3.0	3.4	4.9	6.1	4.7	4.6
Subtotal	40.3	36.9	35.4	40.9	40.9	39.1	44.3
Four Year Colleges							
Public	26.8	33.3	32.2	27.2	30.9	30.7	30.0
Private	14.4	14.4	15.2	13.6	15.9	15.3	16.1
Subtotal	41.2	47.7	47.4	40.8	46.8	46.0	46.1
Universities							
Public	13.1	12.3	12.1	15.6	9.6	11.2	7.3
Private	5.4	3.1	5.1	2.8	2.7	3.7	2.4
Subtotal	18.5	15.4	17.1	18.4	13.3	14.9	9.7
Public	77.3	79.6	76.3	78.8	75.3	76.3	76.9
Private	22.7	20.4	23.7	21.2	24.7	23.7	23.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: ACT tabulations from National College Freshmen Norms data files.

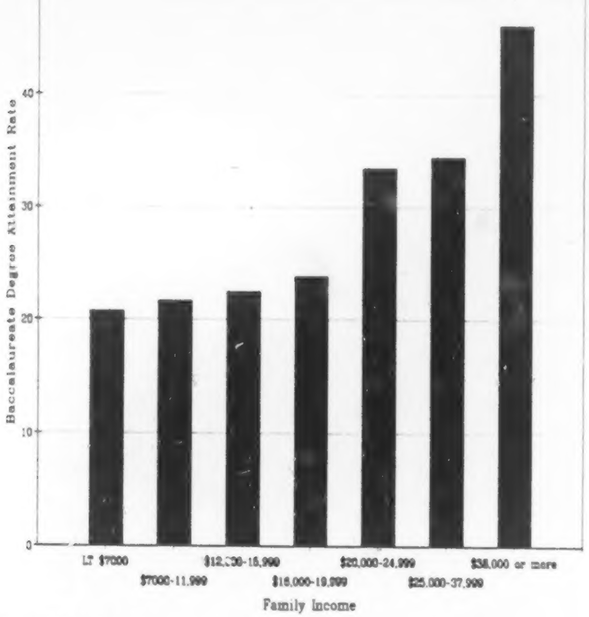
less than $7000 per year, to 46 percent of those from families earning more than $38,000 per year.

This data may be used to estimate four-year college completion rates by age 24 for the period 1970 through 1989 by combining it with the Current Population Survey data. The results are plotted in Figure 108. The estimated chances of earning a baccalaureate degree by age 24 for a college student from the bottom quartile of the family income distribution were about 21 percent in 1989, compared to 27 percent from the second quartile, 46 percent from the third, and 68 percent from the top quartile. The previous patterns of high school graduation and college participation by family income backgrounds largely carry over into college completion as well.

Over the last twenty years, college completion rates for students from the bottom two quartiles of the family income distribution have remained nearly flat, and may even be dropping in the bottom quartile in the latter part of the 1980s. In the third quartile there has been a steady increase during the last two decades. Then, in the top quartile, completion rates declined slightly during the 1970s, but have increased sharply during the 1980s.

The difference in four year college completion rates between the top and bottom family income quartiles over the last twenty years is shown in Figure 109. This gap closed somewhat between 1970 and 1980, but then opened sharply between 1980 and 1985. The college completion rate gap has been wider during the last five years than it has been at any time during the last twenty years.

FIGURE 107
BACCALAUREATE DEGREE ATTAINMENT RATES BY FAMILY INCOME
FOR 1980 HIGH SCHOOL GRADUATES WHO STARTED COLLEGE
SPRING, 1986



Source: 1980 High School and Beyond.

Summary

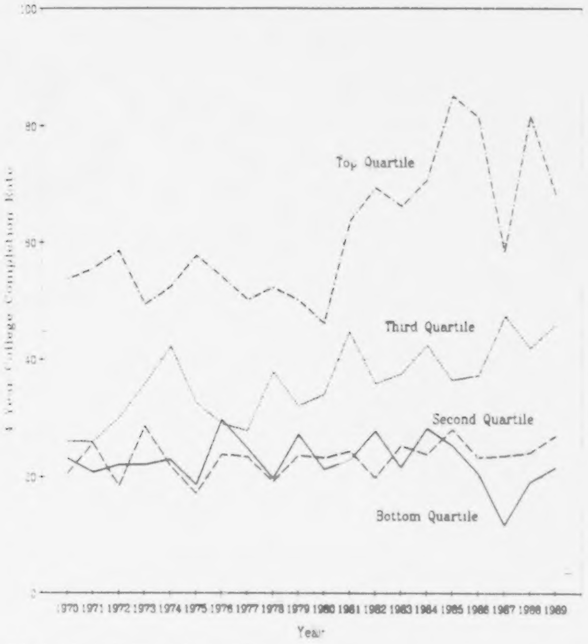
The data that are available to analyze and describe equity of higher educational opportunity for the low income yield the following findings:

First, students from low income families are less well prepared to undertake collegiate study than students from higher income families. Qualitatively, as measured by the ACT Assessment, they score lower than students from higher income backgrounds. Furthermore, students from low family income backgrounds are far less likely than students from high income backgrounds to have completed a college preparatory curriculum by the time they leave high school for college.

More importantly, students from families with low incomes are considerably less likely than students from high income families to graduate from high school. This generalization holds up across genders and racial/ethnic groups. Over the last twenty years, some modest progress has been made in closing the high school graduation rate gap between those from low and high family income backgrounds.

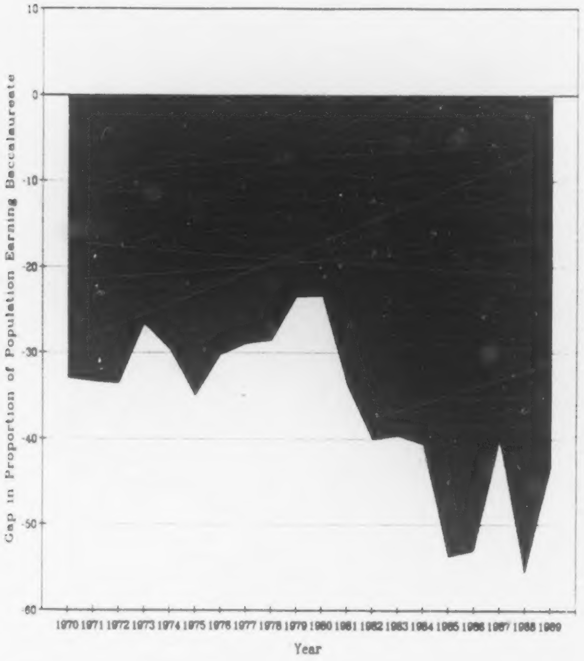
Second, high school graduates from low family income backgrounds are less likely than other high school graduates to go on to college. The college participation rate gap between low and high family income students narrowed appreciably during the 1970s, but widened even more appreciably during the 1980s. By the second half of the 1980s, the college participation rate gap was wider than it had been at any time during the last twenty years.

FIGURE 108
ESTIMATED 4 YEAR COLLEGE COMPLETION RATES BY AGE 24 BY FAMILY INCOME QUARTILES FOR UNMARRIED COLLEGE STUDENTS 1970 TO 1989



Source: Current Population Survey and High School and Beyond.

FIGURE 109
ESTIMATED CHANCES FOR A BACCALAUREATE DEGREE GAP BY AGE 24 BY FAMILY INCOME QUARTILE 1970 TO 1989



Third, since 1978, college choice has not worked as well for low income students as it has for affluent students. Compared to affluent students, low income students are less likely to make multiple college applications, be accepted at multiple colleges for admission when they do, and as a result they are less likely to have more than one college to choose from. When low income freshmen do have multiple college choices, they are less likely than affluent students to enroll in their first choice college.

Fourth, low income students are less likely than affluent students to set their sights on at least a baccalaureate degree. Since 1980 the proportion of college freshmen from all family income levels aspiring to at least a bachelor's degree has declined. This decline, especially since 1982, has been accompanied by a declining proportion of low income college freshmen enrolling in universities, both public and private.

Finally, college students from the bottom quartile of the family income distribution are less likely than other students to earn a baccalaureate degree by age 24. The difference in four year college completion rates between the top and bottom quartiles narrowed during the 1970s, but widened sharply during the 1980s. By the second half of the 1980s the four year college completion rate was wider than it had been at any time during the last twenty years.

VI. The Bottom Line

This study has examined six components of equity of higher educational opportunity for four groups of Americans--women, blacks, Hispanics, and low income students--over the last twenty-five years. The analysis of that equity consisted of comparative examinations of preparation for college, access to college, college choice, persistence in college, field of study, and baccalaureate degree attainment. The study used comparisons--women to men, blacks and Hispanics to whites, and the low income to the affluent-to illustrate the status of equity of higher educational opportunity for any of these groups at any time during the last two to five decades of available data.

In American higher education, we have identified distinct eras when gains were made or losses occurred in equity of higher educational opportunity. During the two decades between the end of World War II and 1965, participation in higher education grew increasingly unequal--for women and blacks in particular. Then, with 1965 as the pivotal year, participation in higher education rapidly improved for women, blacks, and the low income over the next decade. During the second half of the 1970s, approximate equity of higher educational opportunity existed for most groups on most dimensions of their preparation for, participation in, and completion of higher education. At the very minimum, educational opportunity had improved. Finally, during the 1980s the broad trends of equity apparent for the previous 35 years broke down. For women, previous gains were preserved and built upon. For blacks and those from low income backgrounds previous gains were lost.

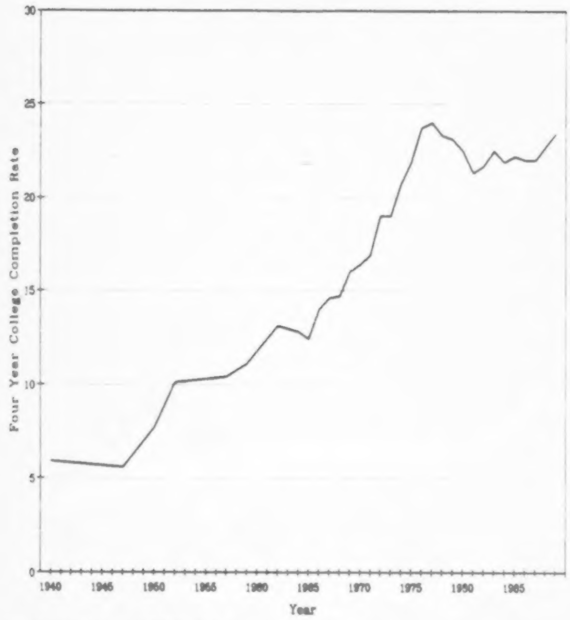
The study documents accomplishments and failures of higher educational opportunity for vulnerable populations of simply staggering magnitude. Each of the four groups studied experienced a significant improvement in one or more of the components of higher educational opportunity during the 1970s. Millions of students from vulnerable portions of the population gained access to American colleges and universities that otherwise would not have gone to college. Unfortunately, the gains made between 1965 and 1975 were not preserved during the 1980s for all groups.

The twenty-fifth anniversary of the Higher Education Act of 1965 is celebrated in 1990. Moreover, Congress is about to undertake an examination of the federal student financial aid programs authorized under Title IV of the Act that are scheduled to expire in 1991. To the extent federal policy in higher education remains concerned with equity of higher educational opportunity for all citizens, this paper presents a sobering appraisal of the current status of the goals of that policy. One group of Americans has always had educational opportunity--white, male, and affluent. Others--mainly women--have achieved equity and held on to their success. And still others have achieved some equity, only to lose it during the last twenty-five years.

Through reauthorization of the Title IV student financial aid programs, Congress will have the opportunity to address the problem of inequity documented and reported in this study.

We offer for final consideration a bottom line measure of equity of higher educational opportunity--one that combines most of the components of higher educational opportunity examined in this study. American college freshmen have told us for more than two decades that the bottom line of the higher educational experience is graduating from college with at least a bachelor's degree. The labor market sends the same signal. To accomplish their goal, the college graduate must have graduated from

FIGURE 110
FOUR YEAR COLLEGE COMPLETION RATES FOR AMERICANS 25 TO 29 YEARS OLD
1940 TO 1989



Source: Current Population Survey, P-20, No. 428, T. 12

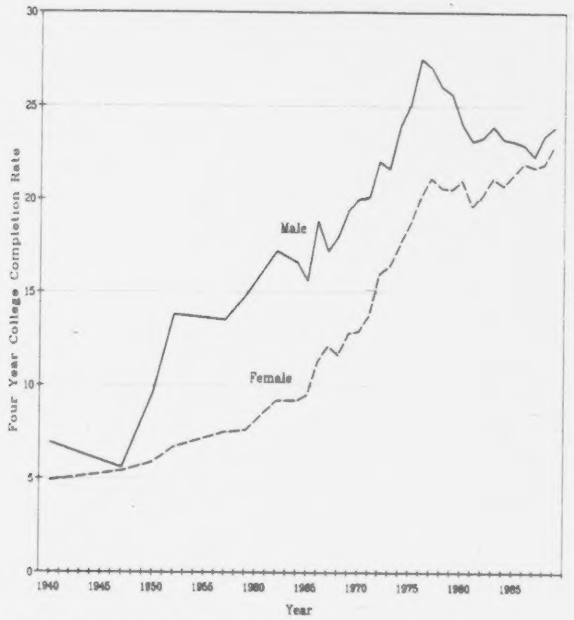
high school, entered college, and persisted in college through at least four years of full time study to have earned his or her bachelor's degree. The four year college completion rate--the proportion of the population age 25 to 29 that has completed four years or more of college-reflects this goal. This rate combines high school graduation, college entrance, college completion, and degree attainment rates into a single measure of goal attainment.

The four year college completion rate is shown in Figure 110 for all Americans age 25 to 29 years of age. This rate showed almost steady and very substantial improvement from 1947--when it stood at 5.6 percent of the population--until 1977, when it reached a peak of 24 percent of the population. This rate has since declined to 22.7 percent by 1988. All of the growth in the proportion of the Americans age 25 to 29 with four years or more of college occurred between 1947 and 1977. None has occurred during the last decade.

Women

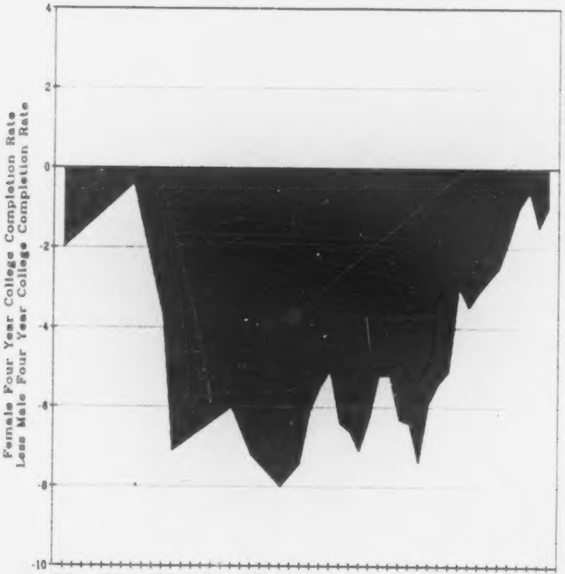
By far the greatest gain in equity of higher educational opportunity recorded for any group under study over the last twenty-five years was and is being recorded by American women (compared to men). The gains are broad, significant, enduring, and continuing. Figure 111 shows the proportion of the population of men and women age 25 to 29 that have attained four years or more of college for the years between 1940 and 1988. The record consists of enormous growth--particularly between 1966 and 1977--and that growth continues through 1988.

FIGURE 111
FOUR YEAR COLLEGE COMPLETION RATE BY GENDER FOR PERSONS 25 TO 29 YEARS OLD
1940 TO 1989



Source: Current Population Survey, P-20, No. 428, T. 12.

FIGURE 112
FOUR YEAR COLLEGE COMPLETION RATE GAP FOR FEMALES 25 TO 29 YEARS OLD
1940 TO 1989



Source: Current Population Survey, P-20, No. 428, T. 12.

More important than growth to the purpose of this paper is the difference in the four year college completion rates for men and women for each year between 1940 and 1988. These data are plotted in Figure 112. Between 1950 and about 1979, the female four year college completion rate consistently lagged the male rate by 5 to 8 percentage points. During the 1980s, this gap began to close, and by 1988 the female rate lagged the male rate by 1.5 percent. Because this rate lags the high school to college transition of this population of 25 to 29 year olds by about 9 years, the relative gains in the four year college completion rate were actually initiated about 1970--the same year the college entrance rate for recent female high school graduates began to close on the rate for males.

If the four year college completion rate does indeed measure the bottom line of equity of higher educational opportunity for women, then we may conclude that women are about to reach the condition of equity with men.

This achievement may be illustrated in the following way. In 1987 there were about 2,423,000 females age 25 to 29 with four years or more of college. If the four year college completion rate had not closed with that of males since 1979, and if the rate for females still lagged the rate for males by the roughly 6 percent gap that had existed between 1950 and 1979, then there would have been 1,771,000 females in this age range who had completed four years or more of college. The closing of the college completion rate gap enabled 652,000 more females age 25 to 29 to complete four years or more of college by 1987 than would have otherwise.

This achievement may be expressed another way as well. In the early 1950s a woman age 25 to 29 had less than half--48.6 percent-of the chance of a similarly aged man to have earned a baccalaureate degree. By 1965 her chances had increased to 61 percent. By 1975 her chances increased further to 75 percent. By 1985 they were 92 percent, and by 1988 they were about 94 percent. Given recent trends in high school graduation and college entrance rates, we will soon see a woman's chance of earning a bachelor's degree surpass that for men.

The closing of the four-year college completion gap by women is the direct result of their extraordinary improvement in high school graduation rates compared to men, their steadily improved college enrollment rates, and to a lesser extent their rate of completion through four years of collegiate study compared to men.

It is a sobering exercise to compare this bottom line measurement of the success of women in achieving equity with men to the records for blacks and Hispanics compared to whites.

Blacks

Black college freshmen tell us that they prioritize economic and social objectives for their lives that are essentially similar to the priorities stated by whites. Moreover, blacks view higher education similarly to whites as the means to those ends.

As a result, blacks now compare favorably to whites in their high school graduation rates, and have shown improved college access at different times. But black completion in higher education has deteriorated steadily and substantially compared to whites over the last two decades. Thus, important accomplishments in secondary education and the transition to college have been almost completely offset by losses that occurred during the higher educational experience. The result is almost no gain compared to whites in the proportion of blacks age 25 to 29 with four years or more of college.

The importance of the above point cannot be overstated. Research on student retention in higher education has demonstrated clear relationships between the successful integration of students into the academic and social life of the higher educational institution and their completion in college. The steady deterioration in the black college completion rate compared to whites over the last two decades strongly suggests a failure of higher educational institutions to successfully integrate black students into the academic and social environments of the colleges in which they are enrolled.

The result of deteriorating college completion for blacks has been relatively modest growth in the proportion of blacks age 25 to 29 with four years or more of college, as shown in Figure 113. This proportion increased from 1.6 percent in 1940, to a peak of 13 percent in 1976, but has since declined to 12.3 percent in 1988.

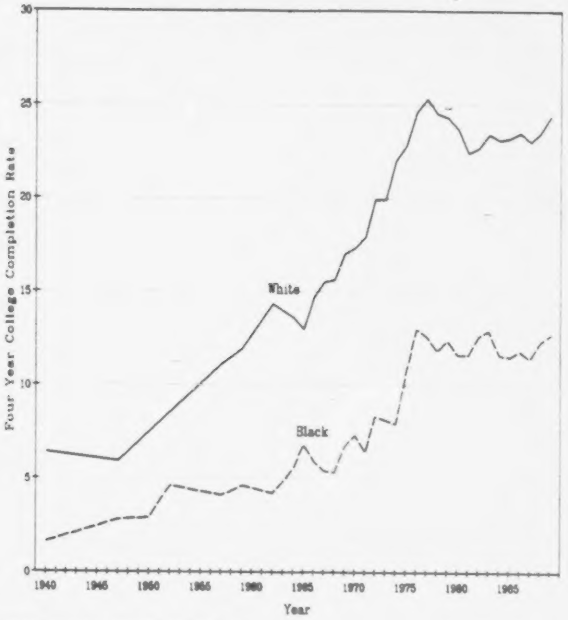
The measure of equity of higher educational opportunity that the four year college completion rate measures requires the comparison of black rates to those of whites. In Figure 114 we have plotted this difference, for each year between 1940 and 1988. The difference or gap between the white and black four year college completion rates in 1947 stood at 3.1 percent. By 1974 this gap had grown to 14.1 percent. Since 1974 this gap has closed to 11.2 percent.

We may estimate the loss of black graduates of four year colleges in the same way we estimated the gain for women. In 1987 there were about 303,000 blacks age 25 to 29 with four years or more of college. If, in 1987, the four year college completion rate for blacks had been at the white rate of 23 percent instead of the black rate of 11.4 percent, there would have been about 612,000 blacks with four years or more of college; that is, there were about 309,000 fewer blacks age 25 to 29 with four years or more of college in 1987 than there would have been had the black college completion rate equaled the rate for whites.

We may also illustrate black status in higher educational equity by comparing probabilities of earning a bachelor's degree by age 25 to 29 for blacks compared to whites over time. In 1940 a black age 25 to 29 had about 25 percent of the chance of a white to earn a baccalaureate degree. By 1957 the black's chances had increased to 37 percent, to 35 percent by 1967, 50 percent by 1977, and 52 percent by 1988. Blacks' chances of earning a baccalaureate degree are just half those of a white, and their chances have not improved in more than ten years.

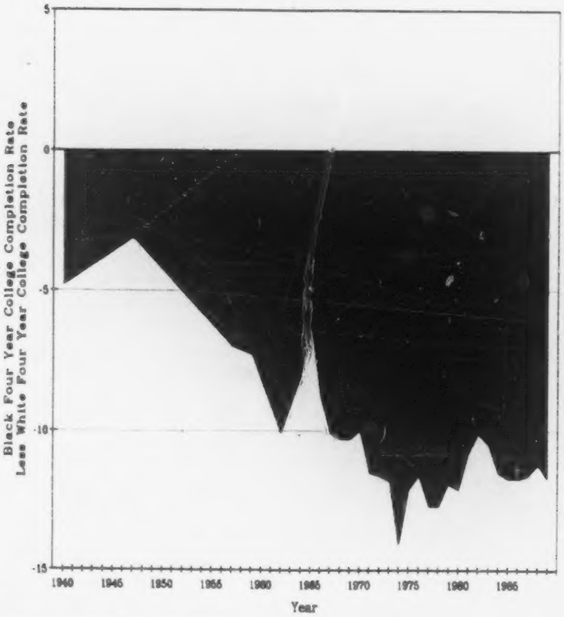
In light of the collapse of the college entrance rate among recent black high school graduates in the first half of the 1980s and the continuing deterioration in the college completion rate for blacks, we may expect to see a continuing decline in the black four year college completion rate in the 1990s. Currently, there is no reason whatever to anticipate a significant improvement in the black four year college completion rate, yet every reason to believe that the white rate will increase over the next decade. This suggests that the gap between white and black four year college completion rates will only widen over the next several years. A serious socioeconomic imbalance will increase, and higher education will be part of the problem, not the solution.

FIGURE 113
FOUR YEAR COLLEGE COMPLETION RATE
FOR WHITES AND BLACKS 25 TO 29 YEARS OLD
1940 TO 1989



Source: Current Population Survey, P-20, No. 428, T. 12.

FIGURE 114
FOUR YEAR COLLEGE COMPLETION RATE GAP
FOR BLACKS 25 TO 29 YEARS OLD
1940 TO 1989



Source: Current Population Survey, P-20, No. 428, T. 12.

Hispanics

This study has confronted the research problem of distinguishing Hispanics of Mexican descent from Hispanics of other descent. Where data on the different populations are available, the Mexican-American population stands out from other Hispanics by its relatively low levels of participation in the educational system. Though we are are still limited in our ability to distinguish between different Hispanic subgroups, the results are often so discouraging that indeed they probably reflect somewhat similar experiences for both Mexican-Americans and other Hispanics on important dimensions of higher educational preparation, participation, and attainment.

The four year college completion rates for whites and Hispanics age 25 to 29 are shown in Figure 115 for the years between 1940 and 1988 (where data are available). In the Hispanic population, the college completion rate has moved upwards, from about 6 percent in 1974 to 11.3 percent by 1988. However, the 1988 rate for Hispanics compares to a rate of 12.3 percent for blacks, 23.5 percent for whites, 23.4 percent for men, and 21.9 percent for women. The Hispanic rate falls below the rate for any other group examined in this study.

In 1987 there were about 180,000 Hispanics age 25 to 29 with four years or more of college. If Hispanics had completed four years of college at the white rate, there would have been 477,000 with college degrees. That is to say, there were 297,000 fewer Hispanic college graduates in the 25 to 29 year old age range than there would have been had Hispanics achieved the same four year college completion rates as whites.

Expressed in terms of probability of earning a bachelor's degree by age 25 to 29, in 1988 the Hispanic's chances are about 48 percent those of a white. Undoubtedly, the chances for a Mexican-American are well below the rate for other Hispanics due to very low high school graduation and college entrance rates for this population.

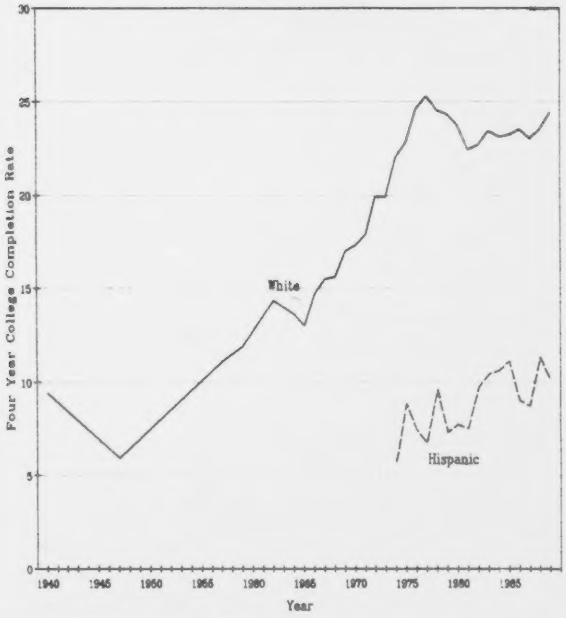
The four-year college completion rate for Hispanics reflects many serious problems in the educational system. First, the high school graduation rate, especially for Mexican-Americans is extraordinarily low. Second, the college entrance rate for Mexican-American high school graduates is very low. Third, the Hispanic college completion rate is low. Fourth, the baccalaureate degree rate for Hispanics is low. At every step in the educational process of preparing a population for graduation from college with a baccalaureate degree, Hispanics generally and Mexican-Americans in particular are hemorrhaging from the system. Unless and until this hemorrhaging is stopped, Hispanics generally and Mexican-Americans in particular will become increasingly divorced from the benefits generally accorded college graduates in the American socioeconomic system.

Low Income

At every step on the process of earning a baccalaureate degree by age 24, students from low income backgrounds fare worse than their more affluent peers. They are less likely to graduate from high school, less likely to go on to college if they make it past high school, and less likely to complete college if they enroll than are other students from more affluent family income backgrounds.

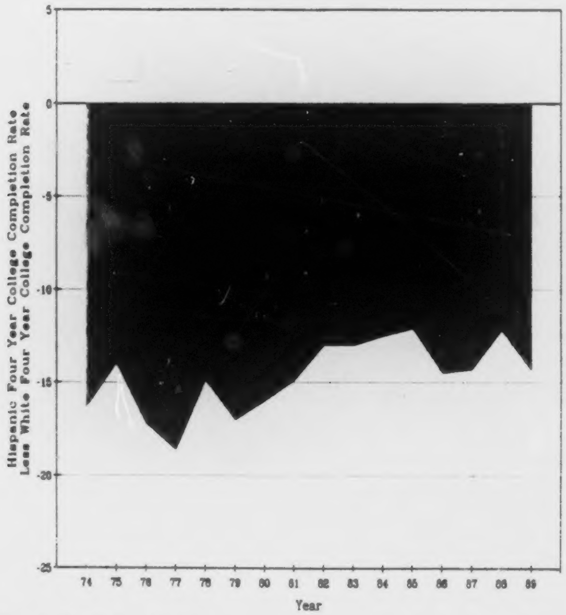
These effects are cumulative when calculating the student's chances of earning a baccalaureate degree by age 24. Figure 117 shows the chances for students from each of the four family income quartiles for each of the last twenty years. These results are

FIGURE 115
FOUR YEAR COLLEGE COMPLETION RATE
FOR WHITES AND HISPANICS 25 TO 29 YEARS OLD
1940 TO 1989



Source: Current Population Survey, P-20, No. 428, T. 12.

FIGURE 116
FOUR YEAR COLLEGE COMPLETION RATE GAP
FOR HISPANICS 25 TO 29 YEARS OLD
1974 TO 1989



Source: Current Population Survey, P-20, No. 428, T. 12.

FIGURE 117
ESTIMATED CHANCES FOR A BACCALAUREATE DEGREE
BY AGE 24 BY FAMILY INCOME QUARTILE
1970 TO 1989

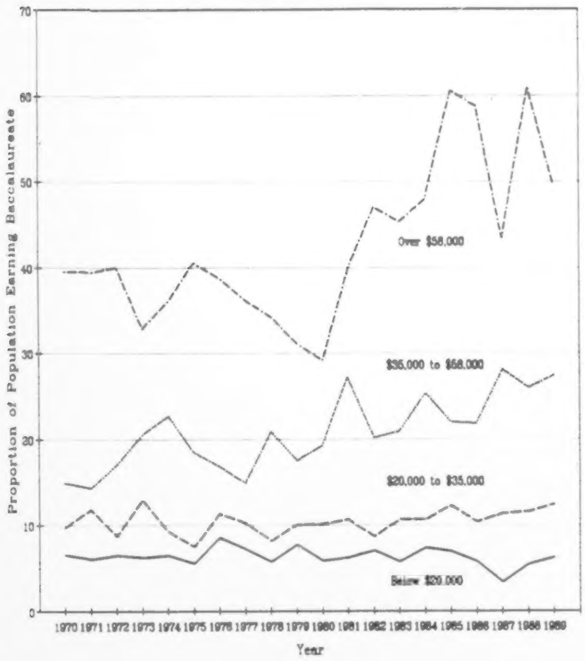
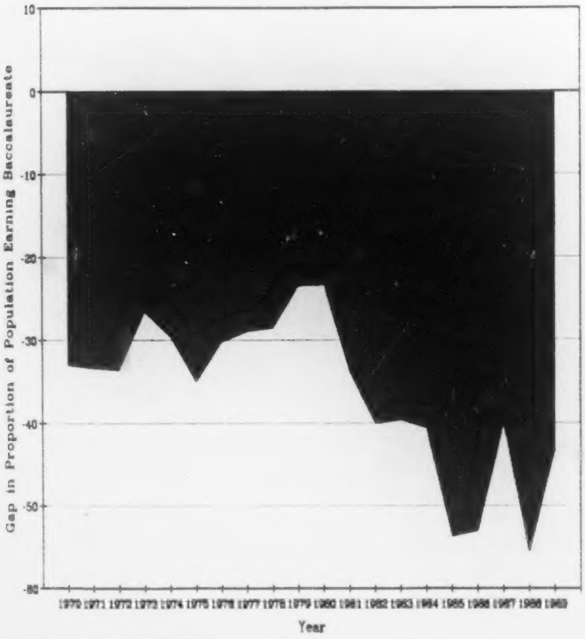


FIGURE 118
ESTIMATED CHANCES FOR A BACCALAUREATE DEGREE GAP
BY AGE 24 BY FAMILY INCOME QUARTILE
1970 TO 1989



Source: Data developed in tables, plus estimates.

simply staggering. In 1989 a student from the bottom quartile of the family income distribution--family income below $20,000 in 1989--had a 6 percent chance of graduating from high school, enrolling in college, and graduating by age 24. If the student came from the second family income quartile--$20,000 tc $35,000-his or her chances doubled to about 12 percent. At the next income quartile--$35,000 to $58,000--the student's chances doubled again to about 27 percent. And between the third and top family income quartile--family incomes over $58,000 per year--the student's chances redoubled again to about 55 percent. During the last five years, the top quartile's students had eight to thirteen times greater chance than did bottom quartile students of passing all three hurdles by age 24.

Moreover, significant progress in educational attainment has been limited to students in the top two quartiles of family income-above $35,000 in 1989 dollars. In the earning a baccalaureate degree by age 24 have actually declined, especially during the second half of the 1980s. This decline occurred despite significant increases in the high school graduation rate for this group, especially during the middle of the 1980s. That means that the decline in chances of earning a baccalaureate degree by age 24 have occurred exclusively in the remaining two components of baccalaureate degree attainment, namely access to college and especially completion within higher education for the few from the bottom family income quartile that make it that far. High school graduates from the bottom quartile of family income experienced extraordinary difficulties with college access between 1977 and 1984, and college completion within higher education between 1984 and 1987. The very modest recoveries in access and completion since then have been largely offset by declines in high school graduation rates between 1986 and 1989.

Students from the second quartile of family income--$20,000 to $35,000--have fared little better than those from the bottom quartile over the last two decades. Their chances of earning a baccalaureate degree by age 24 have hovered around ten percent through 1984, and have recently edged up to about 12 percent. This may be twice the chance that a bottom quartile student has, but is still only about a fifth of the chance of a student from the top quartile. The high school graduation rates, college participation rates, and four-year college completion rates for this group have been largely flat over the last twenty years.

In contrast to the experience of students from the bottom two quartiles of the family income distribution, the chances for a baccalaureate degree by age 24 for students from the top two quartiles have improved sharply over the last twenty years. In the third quartile--family incomes between $35,000 and $58,000 in 1989-a student's chances have nearly doubled, from 14.9 percent to 27.3 percent between 1970 and 1989. This increase is not the result of increasing high school graduation rates, which have remained flat over this period. But instead it is the result of increases in college participation rates beginning after 1980, and steady and substantial increases in college completion rates between 1970 and 1989.

In the top quartile--where families incomes ranged upward from $58,000 in 1989--chances for a baccalaureate degree by age 24 declined between 1975 and 1980, but then increased sharply between 1980 and 1985. These fluctuations were partly attributable to changes in high school graduation rates which declined slightly between 1970 and 1981 and increased slightly thereafter. Far more importantly, however, were changes in college participation and completion for this group. College participation rates for top quartile high school graduates declined substantially between 1970 and

1979, and increased sharply since then. College completion rates for this group declined between 1970 and 1980, then increased sharply between 1980 and 1985.

The final tally of equity accomplishments over the last twenty five years is decidedly mixed. At one extreme we have observed the record for females compared to males as one of persistent, pervasive, and substantial progress. Those accomplishments have brought women into substantial parity with men by age 25 to 29. At the other extreme, we have observed selective, focused, transitory, and insubstantial progress toward equity of educational progress and attainment. The record for blacks, Hispanics, and the low income is not finished and in many respects was never attempted. We hope that this study will shine a light on the problems in educational opportunity yet to be effectively addressed in policy and practice.

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